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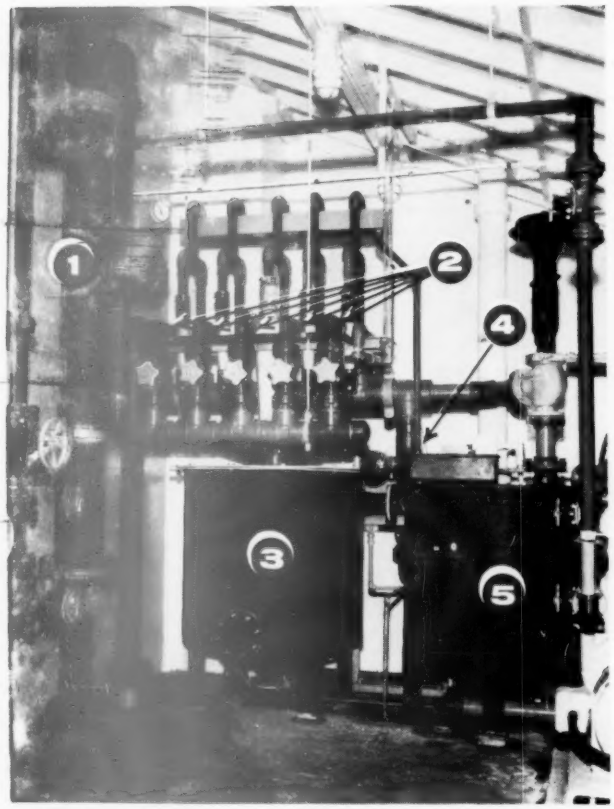
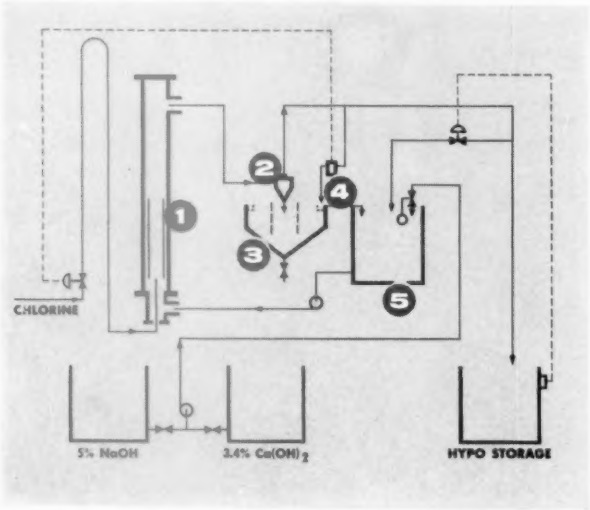


ABOVE: Installation of Pennsalt Continuous Hypochlorite Reaction Tower at the Elk Falls Co., Ltd. mill, Campbell River, B. C.

BELOW: Flow diagram of the continuous system as installed in the Elk Falls mill. 1. PENNSALT HYPOCHLORITE REACTION TOWER, 2. CENTRIFUGAL SEPARATORS, 3. SLUDGE SEPARATING TANK, 4. ELECTRODES, 5. SURGE TANK



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20,000 to 250,000 gallons bleach liquor per day . . . Pennsalt Reaction Towers now installed at various mills are producing from 20,000 to 250,000 gallons of calcium or sodium bleach liquor per day. System brochures, flow diagrams, and engineering drawings are available to fit your particular needs.

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ESTABLISHED 1850

March 20, 1961 VOLUME 35, NUMBER 6

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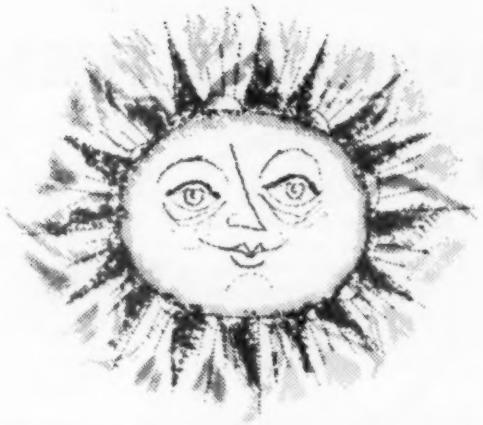

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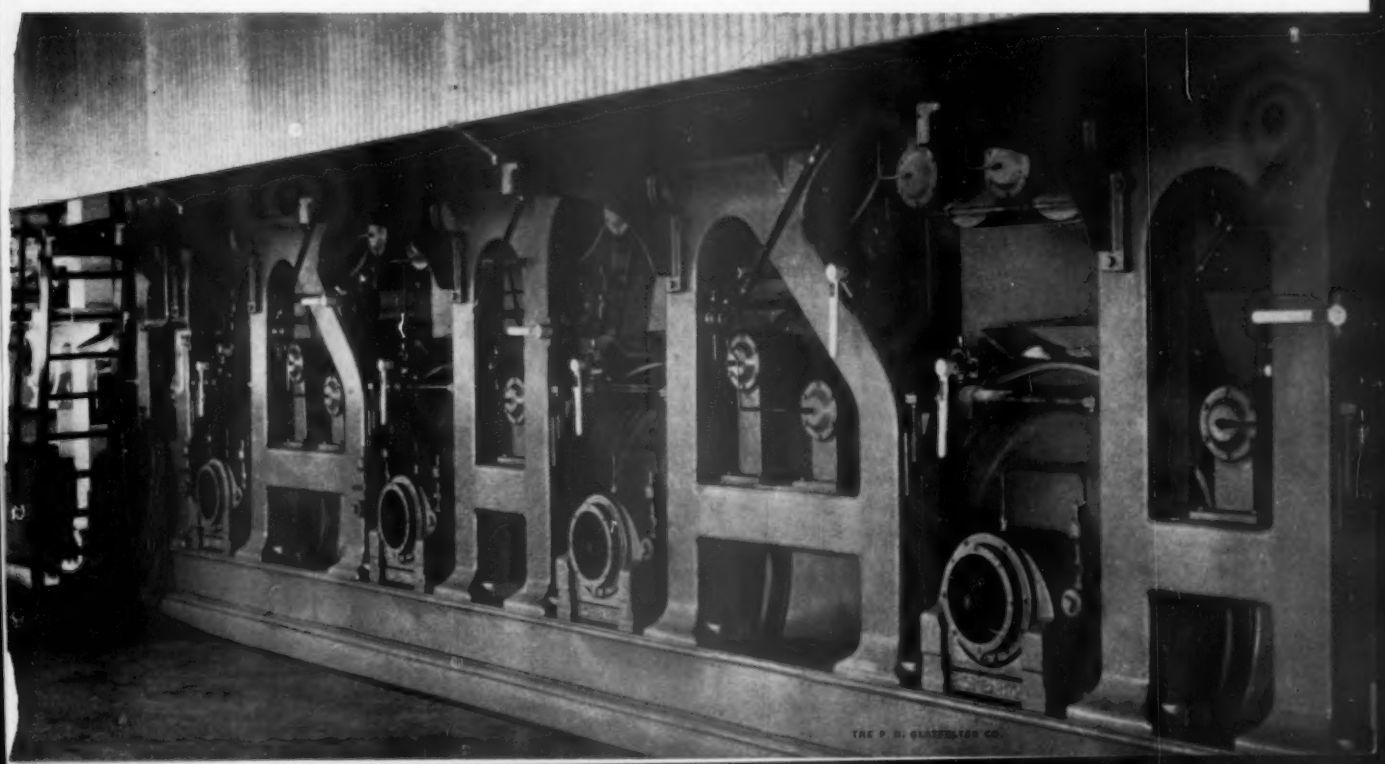

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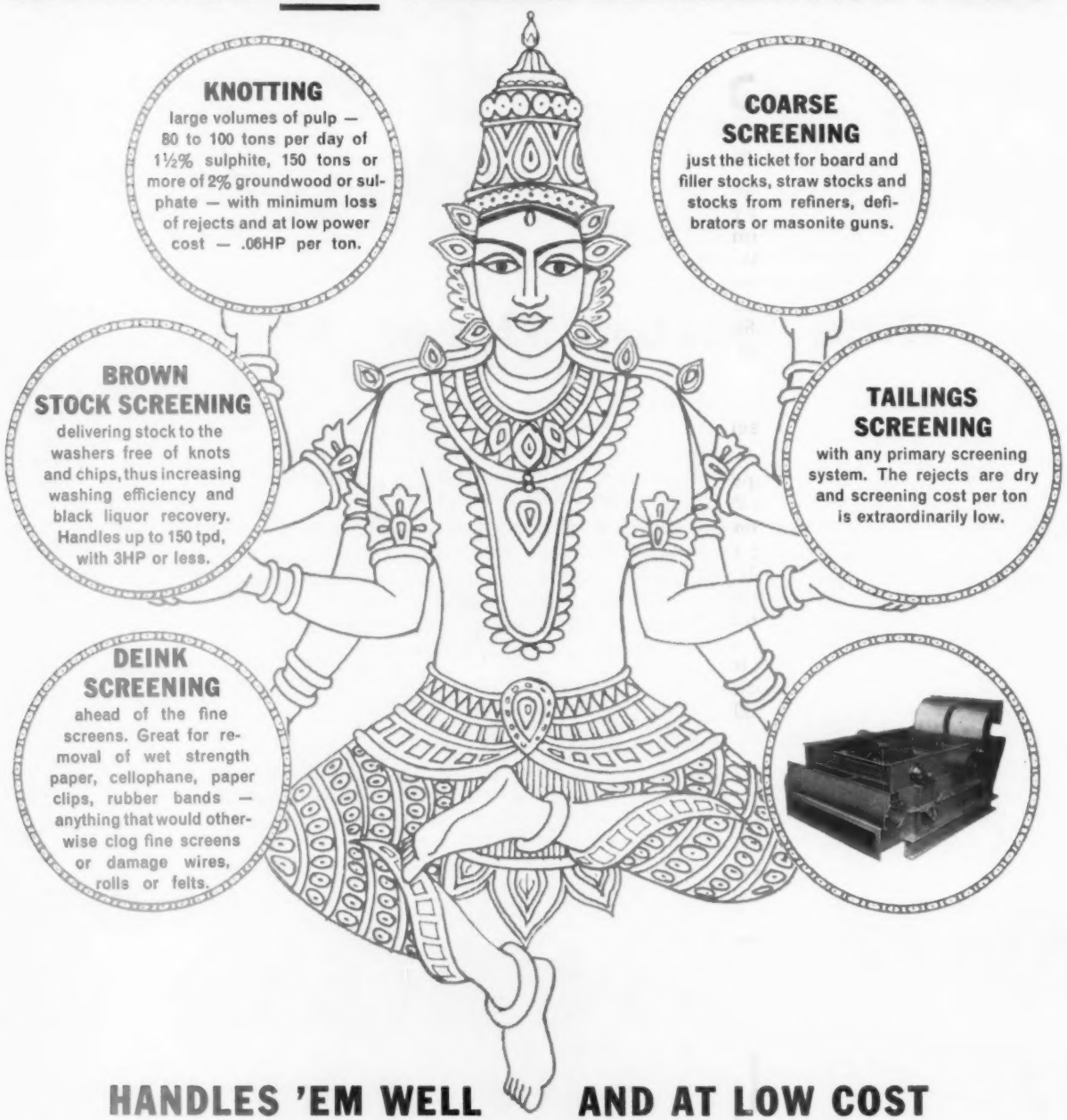

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PULP & PAPER

NEWS DIGEST...

Opposition to Wilderness Bill

will be stronger in House than in Senate, because Congressmen are closer to the people and to potential unfavorable results, informed Washington observers told PULP & PAPER. As issue went to press, Sen. Anderson's bill, S.174, now revised to set aside 32 million instead of 55 million acres as wilderness areas, was expected to win Senate committee approval any day. Sen. Goldwater was strongest critic; President favors it.

Twelve man exemption seems safe

since both H.R.3935 and S.895, fair labor standards bills, now carry 12-man exemption which American pulp industries and American Pulpwood Assn. have long advocated. The exemption will stick, it is felt, because JFK wants nothing to stand in way of quick passage, and he recalls this was stumbling block to his own bill when he was senator. Farmers in north and logging crews in South are nearly all fewer than 12 men. Industry view is it would require man for each crew just to keep time records, as they cut wood when weather permits and work irregular hours. Farmers would probably boil over if ordered to keep records.

Will revise Pollution Bill

to fit differing views of President Kennedy, now being prepared by administration (see page 43 for exclusive PULP & PAPER advance report on how the President's views would require changes in Rep. Blatnik's bill, H.R. 4036). House Public Works committee held hearings on Blatnik bill Mar. 14 to 17. National Assn. of Mfrs. prepared brief against Blatnik bill, scheduled for hearing Mar. 15, contending present state laws are adequate.

Swedish linerboard mill at Munksund

will start this summer, producing 110,000 tons a year to start. The $17 million investment is well ahead of schedule, due to large number of men on construction (775 says report to PULP & PAPER.) This is one of four new linerboard and corrugating mills in Sweden and Finland expected to compete in world markets. Its product will undoubtedly be absorbed in growing European market.

Production is running at 91.5% of capacity

in U.S. paper production, according to current release of American Pulp and Paper Assn. It was 87.8% the preceding week. Paperboard production during same period was reported at 89%, no change over week before.

Business is on upswing, Commerce Secretary

Hodges reports, backing up what White House sources told PULP & PAPER earlier in the week. Says Sec. Hodges: "We are at the bottom . . ." at the same time citing a 1% increase in seasonally adjusted retail sales during Feb. as one sign of improved outlook. Labor dept. reported the number of workers drawing unemployment declined to 13,500 ending lengthy rise.

. . . . . BUSINESS

Some pulp prices up slightly

NEW YORK—Woodpulp looms big in the news this week as Canadians sought to hold very slight price increases after Weyerhaeuser and Puget Pulp indicated they would not follow suit with $10 bleached grade increases.

North Western Pulp & Power Ltd. revised an earlier price announcement downward to $2.50 per ton. Several Canadian producers had followed with the earlier price adjustment. The goal was to set a $2.50 differential for eastern pulps over western.

The Canadians have indicated that they were the unhappiest of all the suppliers with price reductions of last November in the midst of sharply rising labor costs across the world's longest undefended frontier. Likewise, the Canadians also have the exchange against them. But U.S. pulp producers, with rising costs and a profit squeeze, had been unhappy, too.

A 5% increase in labor costs in Canadian mills was made retroactive to the middle of last year, with a 3% rise in January, this year, and 3% in June.

Pulp shipments after the price reduction showed only a slight increase, according to Census Bureau reports. December shipments, including dissolving for example, were 263,394 to U.S. mills, about 25,000 tons up from November. Laying in of supplies before winter normally would bring a seasonal increase, anyway. Inventories showed a drop, also, off 6% in comparison with a year ago.

There had been considerable conjecture as to whether the $10 price increase could stick, coming as it did so soon after the November price reduction, This was, indeed, a fast move, as everyone agreed. For several days,

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there was uncertainty. There had been one school of thought that it would be unlikely that the whole reduction of November would be regained in one single adjustment.

This price matter was unquestionably the biggest subject of discussion in both the paper and pulp circles in the final days of Paper Week and the two weeks that followed.

The shipments for market pulp were off about 6% in January from those of January 1960. Unbleached grades were up, but bleached grades were off which brought the total figure down. This record for the first month of the new year was too short a period to establish a trend. ■

Paper stocks "out of favor" on Wall Street

but not to point where financial wizards feel they will be sold

NEW YORK—Checking with Wall Street brokers, PULP & PAPER found general agreement with *The Value Line Investment Survey* of March 6 (Arnold Bernhard & Co. Inc.) that paper stocks are out of favor with institutional and individual investors alike. They were the "sweethearts" of these investors in the 1950's, says *The Value Line*.

But one paper company president felt *The Value Line* could be discounted for a past record he regarded "as often a bit unfriendly toward the industry."

From remarks that Lawrence K. Gessner of Smith Barney & Co., Wall Street firm, made at Paper Week to the Pulp Producers, his views were similar to *The Value Line's*. He approached the subject from the companies', rather than the Wall Street, point of view. Since *The Value Line* report was published, he said paper stocks were hurt by failure to translate prices into earnings per share. Buyers were rampant for paper stocks in 1956 and 1957, but today the institutions, which must put their money to work all the time, are looking for more volatile stocks.

Other Wall Street brokers commented in similar vein. But all agreed paper stocks have not reached the selling stage. They are going through what the oils went through a few years ago. Individuals who are interested in short term turnovers, are not interested in paper companies, for the most part. As one broker said, "if there is going to be an economic upturn at 3 o'clock on July 1—or some other magic moment—as some people think, steel or some other stock is apt to move up twice as fast as most of the paper stocks."

Investors have become aware they were paying up for earnings growth that really wasn't there in most cases, said *The Value Line*, adding: "Nor is it likely to materialize in the immediate future." It reviewed 20 pulp and paper issues which sold at 4.8 times earnings in 1950 and at 19.2 times by 1959.

IS ROMANCE WITH WALL STREET OVER for paper company stocks? Wall Streeters say buying may be skimpy in immediate future but investments are considered sound. No selling is anticipated.

The survey said: "Additional capacity (an estimated 4.2% increase) is coming in and some labor contracts are up for renegotiation. Consumption is not expected to vary significantly from last year's total. As a result, pressure on profit margins of the paper industry will continue as higher costs press against relatively stable selling prices. Earnings probably will remain depressed.

"If the paper industry slows its expansion and waits for the secular growth in demand to narrow the gap between supply and usage," *The Value Line* survey concludes, "a better price structure and improved margins appear attainable in a few years."

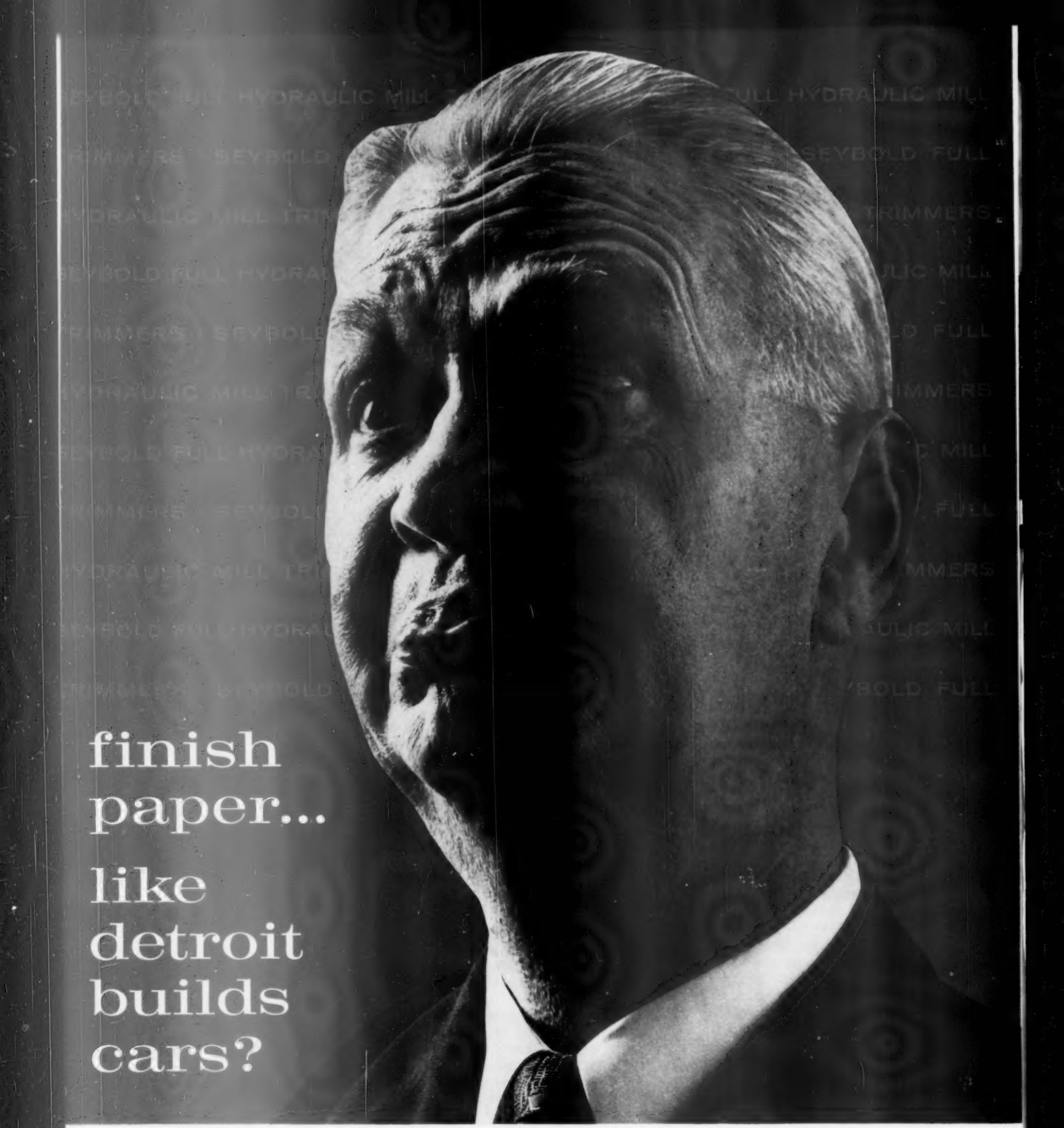
It was pointed out in the publication that half of the paper industry's tonnage is used for packaging and therefore, "it comes as no surprise" that the long-term uptrend in production faltered somewhat last year in a recessionary business climate.

Paper stocks in the 1950's staged immense price advances as paper shipments scored spectacular increases. "But save for a few companies like Scott Paper and Kimberly-Clark, expansion of volume was not translated into share earnings gains. The bulk of the appreciation during the past decade was accounted for by liberalization of multipliers, not by earnings growth," according to the *Value Line* survey.

Another Wall Street broker, asked about the report, said he likewise agreed, adding "paper stocks right now are just plain unattractive." But he also added that they were not in the stage where those who own them want to sell.

During the next 12 months, as earnings remain depressed, the consensus was that most paper equities are expected to give inferior market performances.

The Value Line said there would be more Scandinavian competition, that domestic wage increases granted in late 1960 will eat into profit margins and a lower premium on the Canadian dollar will help some for Canadian producers. ■



A lot of mills are doing it. Right now. With mechanization. They're streamlining material flow. Using air-film tables, for instance . . . conveyors, lifts and Seybold Full Hydraulic 65," 85" and 100" mill trimmers—the only full hydraulics. They're cutting costs—boosting tonnage. The figures are fantastic. So much so, you'll never believe them if we quote them. So join us on a plant tour . . . write today.

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Pulp, paper integration expected to continue

NEW YORK—Further moves by woodpulp companies to acquire papermaking facilities and outlets for their pulp are being rumored. It will be no surprise if there are announcements along this line soon. Weyerhaeuser's merger with the W. C. Hamilton Paper Co., whose two mills produce 75,000 tons a year, and Puget Sound Pulp & Timber Co.'s union with Hopper Paper Co., are making a sharp impact on conditions in the pulp market.

Mergers in the paper industry itself have apparently slowed up drastically, if they haven't come to a dead halt. This is because of possible anti-trust problems involved, with Washington thinking considerably tuned up to the subject by the recent electrical companies case. Pulp-paper mergers, given impetus by over-supply situations, may even be stimulated somewhat by the slow-up in the paper field itself.

Varied figures on pulp capacity were presented by different speakers during the recent Paper Week meetings in New York (see March 6 PULP & PAPER), but this may be explained by the fact that more-than-design capacity can usually be squeezed out of mills, if there is a demand. Generally, the Celgar mill in Arrow Lakes region in Western Canada, should be rated a 500-ton addition, and it is already in tune-up production. Woodfibre, British Columbia, now changed over to alkaline pulp by Rayonier after a long shutdown, will be rated about 275 tons a day, starting in May. The now completed expansion at Thurso, in the east, which was to have been a doubling of production, actually turns out to be about 100 tons on top of 200. It was running in January. Next January, the Nova Scotia Stora-Scott mill starts up with a range from 350 to 425 tons a day. All of this is bleached kraft except the Stora two-stage soda base sulfite. Altogether this may be calculated at from 350,000 to 400,000 tons more annually, but much more might be made at an "all-out" rate.

In Scandinavia, about 500,000 or more tons of market pulp are coming in this year alone, and more later. The figure is flexible in Scandinavian mills, as they may convert more to paper and board, depending on world market potentials.

Exports continue to keep the North American pulp industry happy quantity-wise. U.S.A. pulp exports, which hit a record 1,100,000 tons last year, almost twice the year before, should keep close to that figure for another year. The expansion in Europe is hardly expected to maintain the terrific pace of 10 to 17% growth of the past year, but even if it slows down some, North American shipments should remain high. More Scandinavian capacity will take care of the major European increases.

Scandinavian ports are likely to be closed only a short while this winter. In late January, the shipments from Baltic ports were continuing with milder-than-usual winter and ice conditions which proved no serious obstacle to pulp boats moving in and out of the more southerly mill towns.

Modern ice breakers are playing a more effective part on Scandinavian plup and paper shipments. Four big government ice breakers are doing all necessary for Swedish shipping this year, it was recently reported. The biggest one, incidentally was built by Wärtsilä, the same Finnish concern which is internationally known for building paper machines.

Pulp prices are holding steady in Europe since the recent slight increase by Swedish companies of two pounds sterling per ton for unbleached sulfate. This price has generally been established and the Swedish companies recently reported its final acceptance by British papermakers. ■

Canada must meet competitive quality, cost

VANCOUVER, B.C.—Canada may be able to double its 1955 paper output by 1975 if it can maintain competitive quality and meet competitive costs, according to J. D. B. Harrison, Ottawa, newly appointed deputy minister of forests for Canada.

Addressing university students in Vancouver, he said it would probably be much easier to meet the first qualification than the second. "In any event," he added, "we must so manage our forests, especially the more easily accessible forests, so that we will have enough wood economically available to meet the future's challenge."

Addressing the B.C. legislature, Premier W. A. C. Bennett said that the province's annual cut of timber, in perpetuity, could be trebled. "As a typical example of what can be accomplished," he said, "British Columbia has shown the greatest rate of newsprint increase of any area in Canada. turn to p. 9

WARNED THEY MUST FACE UP to problems of quality upgrading, cost reductions, Canadian mill technical departments, such as this one, and management teams will undoubtedly be hard at work this year.

Tile Tank Hi-Lo Pulper at Byron Weston Company

SOLVES LOW HEADROOM PROBLEM

Hi-Lo Pulper tile tank installation at Byron Weston Company, Dalton, Massachusetts.

The low speed rotor, with large curved blades, provides quick breaking and maximum circulation, forcing stock across the tank to the high speed rotor for defibering.

The notched blades of the high speed rotor, turning at an average tip speed of 7600′ per minute, project only ¼" and use power most efficiently for defibering. The blades, held securely by duroid wedges, can be easily replaced.

In January of 1960 Byron Weston came to Jones with a special pulping problem. To produce their high grade cotton fibre papers Byron Weston uses a wide variety of hard-to-defibre furnish. They needed a pulper that could handle this furnish efficiently, but . . . here was the problem . . . they also needed a pulper which could be installed in 10′ headroom and still handle 35 tons per day.

Jones engineers solved both problems effectively with a specially designed tile tank Hi-Lo Pulper. It meets the limited headroom requirements without sacrificing the proven efficiency of the standard height stainless steel tank Hi-Lo.

Designed for batch or continuous pulping with low power consumption, the Jones Hi-Lo Pulper can be installed in areas where the headroom is as low as 6½′.

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"Starting with 295,000 tons in 1946, capacity has risen to 996,000 tons in 1960, a gain of 238%. Gains are shown for every year, and they vary from only 3,000 tons in 1950 to 175,000 tons in 1957. For the rest of Canada in the four years since 1956, expansion of capacity in B.C. has greatly exceeded gains elsewhere. For the rest of Canada, the gain has been 17%, for B.C. 69%.

"Six new machines have been installed in British Columbia, including four since 1956, and they account for 79% of the increase in capacity."

The premier did not mention that MacMillan, Bloedel & Powell River is now installing another newsprint machine at Port Alberni to produce 140,000 tons a year, commencing in 1963, and B.C. Forest Products is planning to have a newsprint machine at Crofton in operation by 1964 producing 350 tons a day. ■

Scott case goes to higher court

CHESTER, PA.—Confusing decisions in the Scott Paper Co. anti-trust case notwithstanding, the case continues and ensuing litigations probably will take years.

Even though the Federal Trade Commission has recognized expressly that Soundview Pulp Co., Hollingsworth & Whitney Co. and Detroit Sulphite Pulp & Paper Co., were not competitors of Scott at the time they were acquired by the latter, it has again ordered Scott to divest itself of these properties. It insists Scott also must divest itself of improvements and additions, and restore them to what they were way back at the time of acquisition. To "un-merge" these mergers ten years and six years later, seems a virtually impossible task.

The FTC hearing examiner twice ordered the complaint dismissed but twice the FTC reversed him on appeal of its own counsel. President T. B. McCabe of Scott says its counsel declares the decision wrong on facts and law and will appeal to a higher court.

Meanwhile Scott has taken over assets and business of two wholly owned subsidiaries, Coos Bay Pulp Corp., with pulp mills in Anacortes, Wash., and Empire, Ore., and Marinette Paper Co., with a pulp and paper mill in Marinette, Wis., and paper mill in Fort Edward, N.Y. They were acquired in the early 1940's. This latest move brings their 1400 employes directly into the Scott organization and simplifies corporate structure. ■

Mead takes over Chatfield and Woods Company

DAYTON—The Mead Corp. has acquired controlling interest of The Chatfield & Woods Co. and its subsidiaries. These subsidiaries include Chatfield Paper Corp., Cincinnati, Indianapolis and Hartford City, Ind., The Chatfield & Woods Co. of Pennsylvania, Pittsburgh, The Union Paper & Twine Co., Cleveland and Buffalo, the Union Paper & Twine Co. of Michigan, Detroit, Grand Rapids Paper Co., Grand Rapids, Mich., Clements Paper Co., Nashville, Tenn., and the Sciota Paper Co., Columbus, Ohio.

W. H. Chatfield, president of the parent company, said this step has been taken so that ownership problems under U.S. tax laws may not, by very reason of current growth and success, affect the future.

The merger was announced jointly by Howard E. Whitaker, chairman of the board, The Mead Corp., and Mr. Chatfield. The alliance with Mead, says D. F. Morris, Mead's president, brings together two companies which have been closely associated for many years, and will further strengthen service which The Chatfield and Woods Co. has built up for 129 years. ■

Canadian firm to emphasize pulp production

VANCOUVER, B. C.—More emphasis on pulp production will result from Canadian Forest Products' appointment of John E. Liersch as vice president. The company recently completed a modernization program at its Howe Sound division bleached kraft mill at Port Mellon, B.C., and it is tentatively planning to go ahead with major integrated wood processing plant at Grande Prairie, Alta.

Mr. Liersch, one of the British Columbia industry's best known executives, was exec. vice pres. Powell River Co. before the merger with MacMillan & Bloedel, and in the merged corporation he became vice president, timber, pulp and paper production. During the past year he had been devoting much of his time to an educational survey for the provincial government.

Canadian Forest Products, with head office in Vancouver, is the largest of British Columbia's independent forest industry companies and while it has not been as big a producer of pulp as MB&PR, Crown Zellerbach Canada, Columbia Cellulose and B.C. Forest Products, it ranks with the leaders in lumber and plywood manufacture and is Western Canada's principal producer of hardboard.

The Howe Sound mill, which was purchased shortly after the war from Sorg Pulp Co., has a rated capacity of 300 tons per day.

The company's sawmill, shingle and plywood operations in the Vancouver-New Westminster area have a large potential in chip supply, and to make fuller use of this further expansion is contemplated for Port Mellon. Mr. Liersch's appointment fits into this program. While 40% of the mill's pulp output is marketed in the U.S., the company has been exploring overseas markets and has recently opened an office in Stuttgart to deal with business in West Germany and other continental countries. Austrian-born Karl Stengl, who has lived in B.C. for the past seven years, will be manager at Stuttgart. ■

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Georgia-Pacific maps integrated mill

in California, also has plans for other major acquisitions

SAMOA, CALIF.—Georgia Pacific Corp. officials have re-stated their interest in building a large pulp and paper mill in the Eureka, California area. Said one official, "Our plans look to the beginning of construction in 1962 or soon after that."

Owen R. Cheatham, chairman, and Robert B. Pamplin, president, stated, "We are continuing studies for a large pulp and paper mill at Samoa. Plant site and water resources have already been provided."

G-P has also acquired two sawmills and cutting rights on 14,000 acres of timber from Woodleaf Timber Corp., Sacramento. The purchase price reportedly was more than $5,000,000 and was made by Feather River Pine Mills Co., a G-P subsidiary.

According to T. D. Bennett, vice pres., Woodleaf Timber, this sale could lead to other timber land purchases and a total investment by Georgia-Pacific of about $15,000,000.

An exchange of stock agreement between G-P and Royal Container Co. in San Francisco is imminent according to Harold R. Freeman, Royal's president. When approved, this privately owned California company will become a wholly owned subsidiary of G-P. Royal Container makes corrugated shipping cases at its San Francisco and Los Angeles plants, has a paper mill at Santa Clara. ■

Oregon clears way for International Paper mill

PORTLAND—Two enabling bills clearing the way for construction of pulp mills have been passed by the Oregon legislature. Although not yet signed by Gov. Hatfield, there is no doubt as to their enactment since he requested legislative support of these measures. Both were actively supported by International Paper Co. with view to building its proposed $30-$50 million pulp-paper mill at Gardiner.

One bill authorizes the state land board to grant pipeline easements over public lands (which IP would need for extending effluent line across tideland-beach area to ocean), the other gives the board power to grant rights to impound and take water from coastal lakes.

IP made application several months ago to raise the water level of Siltcoos and Tahkenitch lakes with view to utilizing water from this source at the prospective mill. Both bills would be equally beneficial to other firms building mills along the Ore. coast under similar circumstances.

IP representatives—including Harlan D. Shope and Frank J. Coogan, both of the firm's Mobile, Ala. engineering staff—appearing before a state legislative group stated the plant will initially be a 97,000 tons/year kraft operation with one machine. Another machine to follow would up production to 165,000 tons. ■

Other expansion developments

Kimberly-Clark Corp's. second creped wadding machine at Fullerton, Calif., went into operation in December. This was in addition to new converting facilities which doubled capacity of the mill. Other K-C additions include a second paper machine for production of offset, bond and envelope papers at American Envelope plant near Dayton, Ohio and a fourth high speed coated paper machine at Niagara, Wis.

Nekoosa-Edwards Paper Co. has begun excavation for a new finished paper warehouse at Port Edwards, Wis., mill. Completion is scheduled by Labor Day and the structure will provide some 100,000 sq. ft. of storage area in its 200 by 285-ft. dimensions.

Fitchburg Paper Co. expects to complete in May its new 91,000 sq. ft. plant for its Decotone Products Div. The $1,400,000 plant is in Westminster, Mass., 3 miles from the company's Fitchburg mills. Other improvements: new machines and eqiupment at both paper mills and the Decotone division to broaden its line of products; a new coating unit in the Decotone plant to produce a smoother, whiter finish for photographic papers used in half-tone imaging.

Container Corp. of America has announced plans to add some papermaking capacity, reportedly already ordered its paper machine during Paper Week. The large Southern mill is setting up a plant in Houston, Tex., to make corrugated paperboard packaging products.

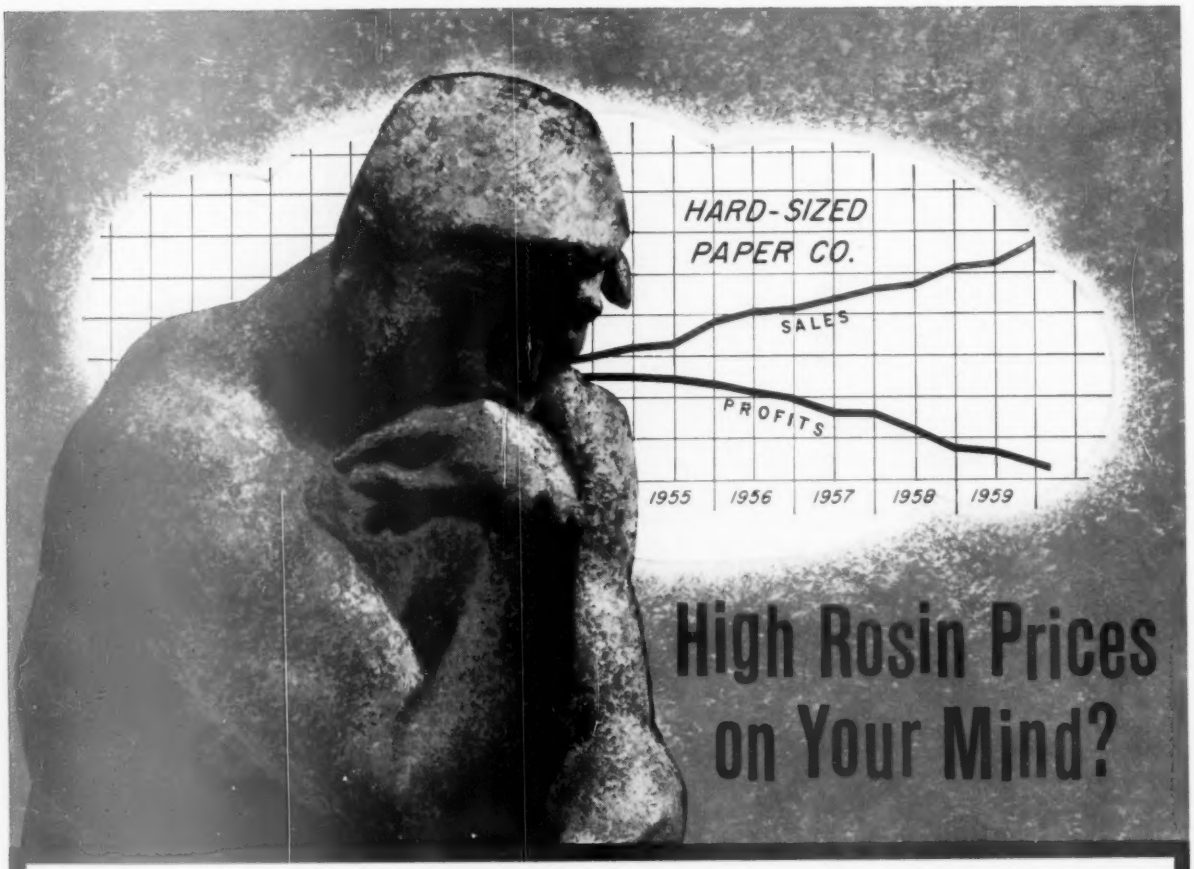
Western Kraft Corp., Portland, Ore., has formed a bag division and is building a 38,000 sq. ft. production plant. Costs $400,000. New facilities are next to company's Western Corrugated Div. container plant at Beaverton.

Two major British Columbia companies are installing new basic equipment this spring. Crown Zellerbach Canada is rebuilding the wet end of its No. 1 newsprint machine at the Elk Falls mill at a cost of about $360,000. MacMillan, Bloedel & Powell River Ltd., is adding an eighth digester at its Port Alberni kraft operation.

The MBPR unit is being built by Dominion Bridge Co. Of 6,000 cu. ft. capacity, the digester will be used as an auxiliary, to be completed by October 1. The company produces newsprint, paperboard, lumber, plywood and shingles as well as kraft pulp at Port Alberni.

Main feature of the rebuilding job at Elk Falls was extension of the 284 in. Fourdrinier wire and relocation of auxiliary equipment. The job is expected to improve quality of the newsprint and permit speeding up of the machine from its present approximately 2,000 fpm. Present capacity is 320 tons a day.

Elk Falls' No. 1 machine, built by Dominion Engineering Co., has produced some 800,000 tons of newsprint since its installation in 1952. It set a world's record for one-day newsprint production when it turned out 353.5 tons, and a weekly record of 2,352.8 tons. It was the first machine in the Pacific Northwest to use bleached kraft pulp in its newsprint furnish. ■



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High density groundwood bleaching success

at 25% consistency reported by St. Regis' Deferiet operations

DEFERIET, N.Y.—After more than five years of joint research and about one year of commercial operation, St. Regis Paper Co. has officially announced the successful operation of a high density (25%) groundwood bleaching plant here.

The new plant has a capacity of 120 tpd, bleaching groundwood from 60 unbleached to 78 brightness in a single stage. Chemicals used are mixed peroxides prepared in a normal manner. Cooperating with St. Regis in the study project was the Becco Chemical Div. of FMC.

LOW CHEMICAL COSTS for bleaching are reported by St. Regis Paper Co. at Deferiet, N. Y., using high density groundwork bleaching.

Deckered groundwood is metered to a vacuum thickener. Pulp at 15% consistency is then conveyed by screw conveyors to three F.M.C. screw presses which thicken the pulp to 30 to 31% consistency. White water is used for dilution at the vacuum thickener.

Pulp then travels by screw conveyor to the E. D. Jones Vertiflex, which mixes the pulp, steam and bleach liquor to a final consistency of 25% pulp. The Vertiflex discharges the pulp to the top of an Impco Thorne type downflow retention tower where bleaching takes place. After a retention time of 1½ to 2 hours, the pulp, with water added for dilution to 8-9%, is removed from the tower by a scraper and screw conveyors. The pulp then goes into the neutralizing chest where liquid sulfur dioxide is added to neutralize residual bleaching chemicals and lower the pH to 5.5-6.0. Control of sulfur dioxide is by a continuous pH recorder-controller. Pulp is then pumped to a storage tank at a consistency of 4% for use in the beater room.

Process is continuous with a minimum capacity of 30 tpd and a maximum of 120 tpd. Each of the three presses can thicken more than 50 tpd of pulp from a consistency of 15% to a consistency of 30-31% pulp. Bleaching consistency is 25% and this high bleaching consistency accounts for low chemical consumption, says St. Regis.

Normal operation is to bleach softwood groundwood pulp from an unbleached brightness of 60 to a bleached brightness of 78 in a single stage. Bleaching chemical is mixed peroxides prepared in a normal manner in a continuous bleach liquor makeup system using hydrogen peroxide, sodium peroxide, silicate and Epsom salts. Bleaching chemical costs are lower than would be necessary to reach the 78 brightness level in a medium density single or two-stage system.

The bleach plant is operated from a single panel board by one man. Electrical connections are such that a failure of one motor shuts down everything behind it in the system.

Plant layout was designed by St. Regis Central Engineering Dept., in conjunction with the Technical Dept. and operating personnel of the Deferiet mill.

All equipment is of standard design, except for the F.M.C. presses, the Vertiflex by Jones, which has special discs and the Impco retention tower. This tower is slightly larger at the base than at the top to keep the high density pulp from bridging. All parts of the system in contact with pulp, chemical or white water are of stainless steel construction, piping is stainless steel and all tanks, vats and towers are tiled to minimize contamination and dirt.

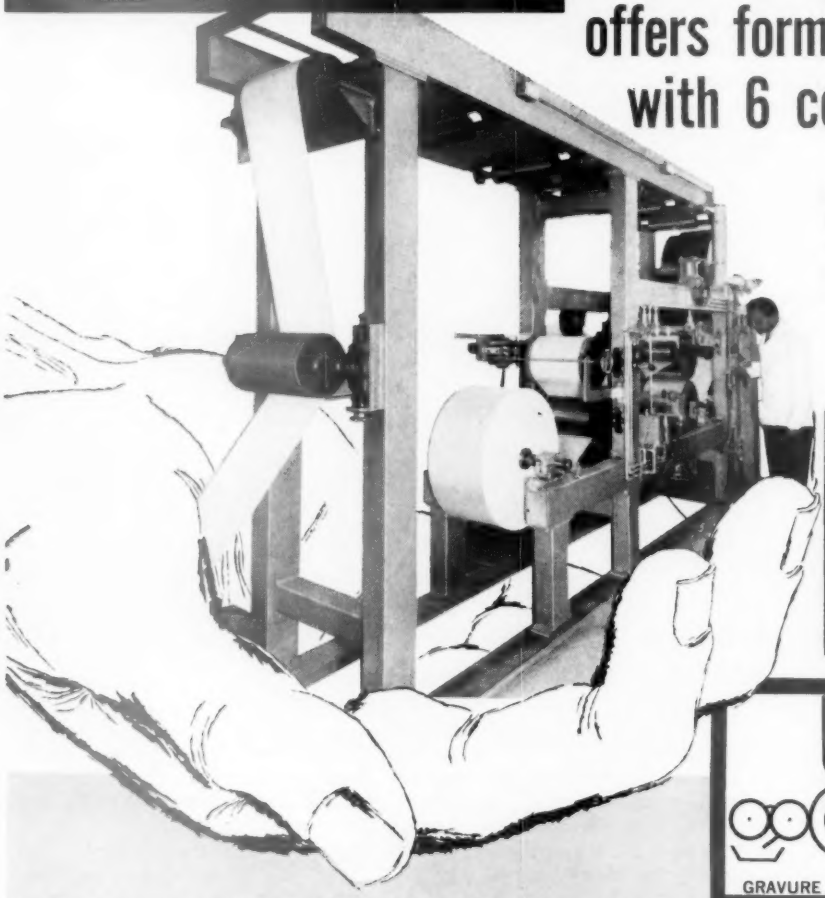
High density bleaching has been discussed for several years, but the St. Regis mill operation is believed to be the only one of its kind in successful operation, according to St. Regis.

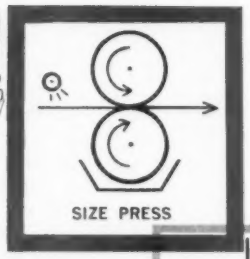
Reasons "why it can't work" have been advanced by some bleaching experts. They cite heavy costs for pumping the high density stock coupled with a higher chemical consumption costs. Usually, these arguments are for high density chemical pulp. The St. Regis process is for groundwood pulp used in printing papers, and makes it possible, says the company to manufacture such papers in the 75 brightness range at reasonable costs.

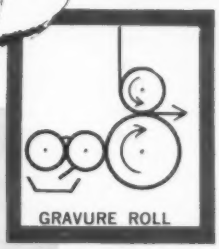
The St. Regis Deferiet mill pioneered the use of hydrogen peroxide bleaching of groundwood as early as 1941. Located near Carthage, upper New York state, it produces 200 tons of bleached and unbleached groundwood pulp a day, another 120 tons of sulfite pulp every 24 hours. From this come 320 tons a day of coated and uncoated book papers, roto, offset, tablet and lightweight printing papers. The mill has six Fourdriniers, the largest trimming 204 inches.

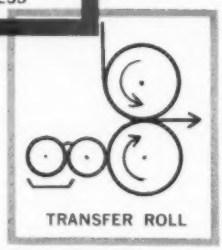
First experiments in high density bleaching were started here late in 1955 and, as a result of successful completion of the project, the mill began using high density bleaching commercially early last year. ■

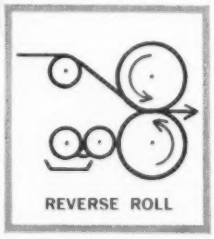
AT YOUR SERVICE ...the MCP Pilot Coater offers formula development with 6 coating methods

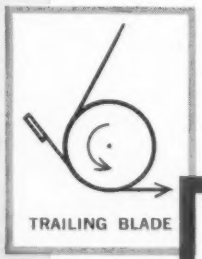


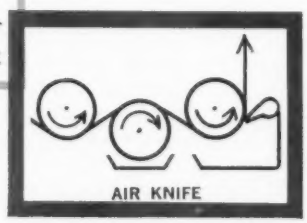












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British Columbia paper mills face strike

VANCOUVER—British Columbia's pulp and paper mills may be severely affected by a threatened shutdown due to labor disputes this summer.

International Wood Workers of America are asking for a dollar a day increase in wages, with fringe benefits, and operators representing some 150 forest industry companies will resist it. They contend that high wages and other costs are already jeopardizing B.C.'s products in world markets, especially in competition with Scandinavia and the U.S.S.R.

The union claims that the industry should be able to afford higher wages because of greater production and improved earnings.

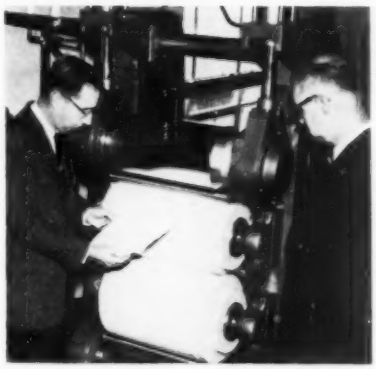
In British Columbia, all pulp-paper companies are integrated with lumber, plywood and other forms of wood products and are dependent upon wood supplies from their logging camps in which the IWA is represented. Furthermore, a large volume of pulp chips is produced by independently owned sawmills which would also be directly affected by union action.

Prolonged negotiations seeking a settlement are likely, but both sides at present give little sign of readiness to compromise. ■

Supercalender aids research at Institute

APPLETON, WIS.—A new laboratory supercalender has been specially designed and developed as a result of the Institute of Paper Chemistry's need for versatile equipment capable of meeting the requirements of its varied research programs.

Hertel Machine designed and built the calender as a prototype. Open face permits easy change in roll arrangement while its dimensions are adequate for four-roll operation. Initial arrangement consists of chilled iron top and bottom rolls of 10-in. dia. and intermediate filled rolls 12 and 14 in. dia. Both iron rolls are bored and provided with rotary joints for heating and cooling. One filled-to-iron nip will probably be kept constant for "standard" coated paper finishing. Other is available for trials on roll finish, roll dia. ratios, filling materials and similar variables.



EXAMINING NEW RESEARCH machine at Institute of Paper Chemistry are C. L. Garey and T. A. Howells of Institute staff.

Progress is made on nitric acid pulping

SAN FRANCISCO—Progress is being made at the University of California Forest Products Laboratory, Richmond, under the direction of Dr. David L. Brink, associate forest products chemist, and staff, in development of a nitric acid wood pulping process that could prove a boon to California's timber, paper and farming industries.

The process appears capable of production of pulps of varying properties, from a high yield to high alpha cellulose types, from wood chips, sawdust, and other residues, and conversion of the effluents into fertilizers, Dr. Brink told PULP & PAPER.

California is the second largest producer of timber in the Nation, but far down on the scale of pulping capacity. It has not thus far been possible to build a large pulp industry on account of the water situation in the state. There is plenty of water but it comes in a short interval in the northern part and is scheduled for intensive multiple use.

The Forest Products Laboratory reviewed the available pulping processes, in the light of these facts:

1. California has a huge and readily available supply of wood.

2. Water is available but as mentioned above, it comes usually, all at once.

3. From Bakersfield to Redding, where there is intensive agriculture using huge quantities of fertilizers, there are large amounts of timber in the adjacent mountains.

The nitric acid wood pulping process, as it is being developed by the Forest Products Laboratory, gives the possibility of using spent process streams for manufacture of fertilizer. Process streams too dilute to permit economic recovery could be introduced into irrigation waters and should be beneficial to the soil.

Although not new, nitric acid pulping process appeared to be a good possibility because nitric acid is a component present in the manufacture of some nitrogen fertilizers. Thus, it would serve as a pulping agent and residue acid in spent liquors would be utilized as fertilizer.

As outlined by Dr. Brink, the process would involve treating wood chips, sawdust, and other residues with nitric acid at temperatures up to 95°C. at atmosphere pressure.

After treatment, the acid would be withdrawn and the material washed with water. Ammonium hydroxide would then be introduced and the oxidation products extracted from the wood. If the reaction with the nitric acid is carried sufficiently far the wood is defibered in the extraction step.

During the reaction some gases are given off—oxides of nitrogen, nitrogen, and carbon dioxide, and other components. These gases can be readily contained and the higher oxide of nitrogen reconverted to nitric acid, Forest Products Lab- . . . turn to p. 19

The secret that couldn't be kept!

When the Johnson Rotary Syphon was ready to go, it was our intention to keep it under wraps for a while . . . until it had been thoroughly field-tested; until we had licked all installation problems; until we had a reasonable inventory on hand.

But good news has a way of getting around, and the clamor for test installations began almost before the patterns were finished. Today Johnson Rotary Syphons are operating in more than 50 mills. Many of these have already embarked on programs of complete conversion.

It is no longer a secret that the Johnson Rotary Syphon represents an important breakthrough in draining condensate from dryer rolls of paper machines. A new concept of pick-up design holds condensate film to a minimum, for optimum transfer of heat units to dryer shell. Better drainage helps reduce horsepower demand; eases bearing wear caused by prolonged "cascading"; cuts maintenance all along the line.

Ease of installation is a welcome feature. The Johnson Rotary Syphon can be inserted right through the manhole; there's no need to get inside, no internal drilling or tapping. There's even a journal-inserted syphon for dryers with handholes only. The Rotary Syphon can be installed anywhere along the face of the dryer shell.

As a logical sequel to the Johnson Rotary Pressure Joint, this new Rotary Syphon completes the task of getting steam in and condensate out of dryer rolls and squeezing maximum effect out of the heat units contained. One secret remains for you to discover: just how much it can improve production and cut costs in your mill!

For engineering data — with the full story of research, design and construction ask for copy of "Condensate Behavior in Paper Machines"

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Rotary Pressure Joints • Direct Operated Solenoid Valves

The *New* JOHNSON ROTARY SYPHON

SUPER TYPE L-N JOHNSON JOINT

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Best Design yet for use with rotating syphon pipe • ***Super Construction*** and stamina • ***Floating Action*** . . . side-steps life-shortening dead weight • ***Easy on, and off*** . . . with just a crescent wrench.

Suppose you had to write on birch bark

Birch bark was the best material Indians could find on which to paint their picture-messages. But when modern-day paper manufacturers included bark, birch or otherwise, in making groundwood pulp for paper, printing quality was poor.

The groundwood method produces twice as much pulp per cord of wood as other processes, but its low color was a drawback limiting its field of usefulness. In the 1940's Becco worked out a Hydrogen Peroxide bleach producing a superior brightness with improved softness and bulk as well. As a result, a good many manufacturers continue to use Becco to make groundwood paper a more desirable product.

Do you have an interest in groundwood or chemical pulps? Becco, with more years of bleaching experience than any other peroxide manufacturer, can help you. Address: Dept. PP-61-2.

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continued from p. 15 . . . oratory scientists state.

Spent acid from the nitric acid reaction and the basic extract can be combined and further processed to produce fertilizer. These products have been tested in pot culture tests and have been shown to be efficient as a source of nitrogen for plant growth, according to Dr. Brink.

It is assumed that the dilute washings from the pulping plant which could not be recovered can be used beneficially as irrigation water. The plant should be located where the effluent from the mill can be used for this purpose.

According to Dr. Brink, a majority of studies has been carried out using white fir as a pulping material, and the use of cotton stalks in the process has also been evaluated.

It appears that water required for the nitric acid pulping process essentially would be equivalent to that used in making pulp by conventional processes. The cost of the nitric acid pulping plant might be less than a conventional pulp plant because the process is not carried out under pressure thus allowing for cheaper pulping equipment and also for the possibility of relatively simple continuous processing.

The scientists at the Forest Products Laboratory have found that the pulp produced is similar in most respects to acid sulfite pulp.

The project at the University of California Forest Products Laboratory has received the sustained support of a group of California lumber companies. ■

West Virginia developing new packages

NEW YORK—West Virginia Pulp and Paper Co. has under way a broad program which is making progress in developing new packaging products.

Basically, these packages lend themselves to coding, permit automated handling, are lighter, stronger, single-ply containers and wrappers designed for palletizing and bulk loading.

Included are new types of frozen food cartons, lightweight folding containers, container-type bags and boxes for shipment of bulk and packaged products, and a variety of improved packages to hold both dry and liquid food products. The new packages in the food field are expected to make possible in many cases the elimination of inner and outer wrappers and provide better surface and larger surface on which to print.

A number of West Virginia's newly designed packages are expected to be in commercial production soon. Two already "on stream" are in the bag field. One is a single-ply lightweight shipping container with the trade name "Balex," made of a new type of Clupak extensible paper. The other is a versatile double-ply bag designed for consumer use, called "RakSak." It is furnished with a rack that keeps the mouth open, in either upright or horizontal position, to permit easy loading and disposal. ■

Self-service stores continue boom in Europe

and paper and board consumption ride high on coattails of growth

Of great importance to North American exporters of paper and packaging materials is a new report on "the revolution" of distribution in Europe, accelerated by the rapid development of self-service stores. Europe is 15 to 20 years behind North America in packaging and paper consumption but is catching up fast.

"The Economic Performance of Self Service in Europe," published by the Organization for European Economic Cooperation (OEEC) says:

At the beginning of 1960, there existed about 36,000 self-service shops in Europe compared with about 15,000 in 1957 and only 164 in 1948. Why is it that self-service has become so popular in Europe?

The consumer has reacted favorably to this new shopping practice and very quickly realized its advantages. Seen from the retailer's point of view the report demonstrates that sales, and sales per employe in particular, are generally higher in self-service shops than in counter service shops of comparable size.

The findings of this study should be of great assistance both to retailers going over to self-service and to those who have already established a self-service shop, by providing them with useful information on costing and financial planning and by helping them to check their calculations.

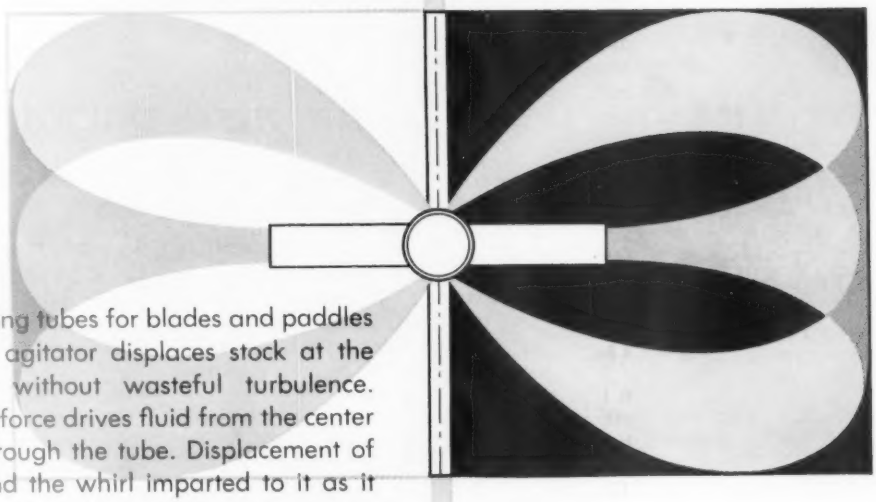
Particular chapters are devoted to self-service and packaging and to the sale of fresh meat, vegetables and non-food articles. The structure and development of self-service in thirteen European countries where it is already established are analyzed and a great amount of information on its costs and performance such as sales per cash stand, sales per customer and so on, is given. A special tri-lingual glossary in English, French and German relating to self-service is added in the annex to the report.

The book is 132 pages. Price is 12 s.6 d. or $2.00 or five French or Swiss new francs or 4.3 German marks. Orders should be sent to OEEC Mission Publications Office Suite 1223, 1346 Connecticut Avenue, Washington 6, D.C., USA.

From a staff correspondent R. M. Yeates in Brussels, comes this report. "There is a very good new supermarket near our hotel. It has parking space, doors that swing open as you go through. In fact, it has everything. The strange thing is that it is not much frequented. You can whisk through in no time. Food prices are quite high. Butter is more than 44¢ for about 1/4 lb. Eggs can be as high as 6¢ each and a decent roast of beef is between $1.30 and $1.40 a lb. I wonder how people manage because a reasonably skilled worker probably only brings home about $40 to $50 a week after taxes. Rents are low." ■

From S. W. Hooper: a pump principle for improved stock agitation

Cowan stock agitator provides a better blend with less than half the power



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By substituting tubes for blades and paddles the Cowan agitator displaces stock at the tank edge without wasteful turbulence. Centrifugal force drives fluid from the center outward through the tube. Displacement of the fluid and the whirl imparted to it as it leaves the rotating tube combine to produce an agitation that continually moves the entire content back and forth between shaft and walls.

Both the flow through the tube and the power are subject to factors that can be readily calculated for accurate engineering of every separate installation.

It is this precision element in the design that permits measurable full blending with power consumption reduced by more than fifty per cent.

We look forward to discussing with you the advantages of thorough blending, and will act promptly on your letter, phone call or wire.

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McCorison, Dostal to top Thilmany posts

KAUKAUNA, WIS.—G. E. McCorison, former president of Thilmany Pulp & Paper Co., has been elected chairman of the board and chief executive officer of the company. He fills the vacancy left when board chairman E. H. Jennings resigned after 44 years with the firm.

C. L. Dostal, who had been vice president in charge of manufacturing, has been elected president replacing Mr. McCorison. Fred Herbolzheimer, Jr., steps into Mr. Dostal's job as vice president in charge of manufacturing. Also named was M. L. Downs, who becomes vice president and technical director.

Mr. McCorison, who has been with Thilmany 25 years, has served in various top positions with the company. He was sales manager and sales vice president prior to his election as president in 1958.

McCorison

Dostal

Herbolsheimer

Downs

Thilmany's new president, C. L. Dostal, has been with the company since 1946, following World War II service as a supply and disbursing officer. He was general sales manager before being transferred to the manufacturing div. in 1955.

Mr. Herbolzheimer became a member of Thilmany's staff in 1957 as production services manager, later becoming production manager. Dr. Downs, a graduate of Penn State and the Institute of Paper Chemistry, has been with Thilmany for 24 years and was named to position of technical director in 1944.

Thomson to manage Gaspesia pulp sales

NEW YORK—J. D. "Don" Thomson is now manager of pulp sales for Northeastern Paper Sales Inc. His promotion follows the move which split the sales organizations for Dryden Paper Co. and Gaspesia Sulphite Co. Ltd.

Under the new arrangement, Montmorency Paper Sales is exclusive sales agent for Dryden pulp and for Anglo-Canadian unbleached sulfite. Northeastern becomes exclusive sales representative for Gaspesia sulfite pulps in the U. S. and Canada.

Mr. Thomson has been Northeastern sales representative for Northeastern Paper for three years. Canadian born, he graduated from the University of Toronto (b.a. 1949). He and his wife have three girls and are expecting their first boy in April.

The Thomsons reside in Longmeadow, Massachusetts.

Earl "Bud" Sproull has joined Northeastern Paper Sales, to cover Gaspesia pulp sales in the Midwest and New York State. He was formerly with Riordan Sales Corp.

Thomson

Strauss heads Nekoosa-Edwards research

PORT EDWARDS, WIS.—Dr. Roger Strauss has been named manager of research and development for Nekoosa-Edwards Paper Co., a leading producer of writing, printing, and business papers.

Rolland Aubey was named assistant manager of the department, with chief responsibilities for paper development. Dr. Truman A. Pascoe, who has held administrative positions in both research and technical departments, will assume a staff position as senior research associate.

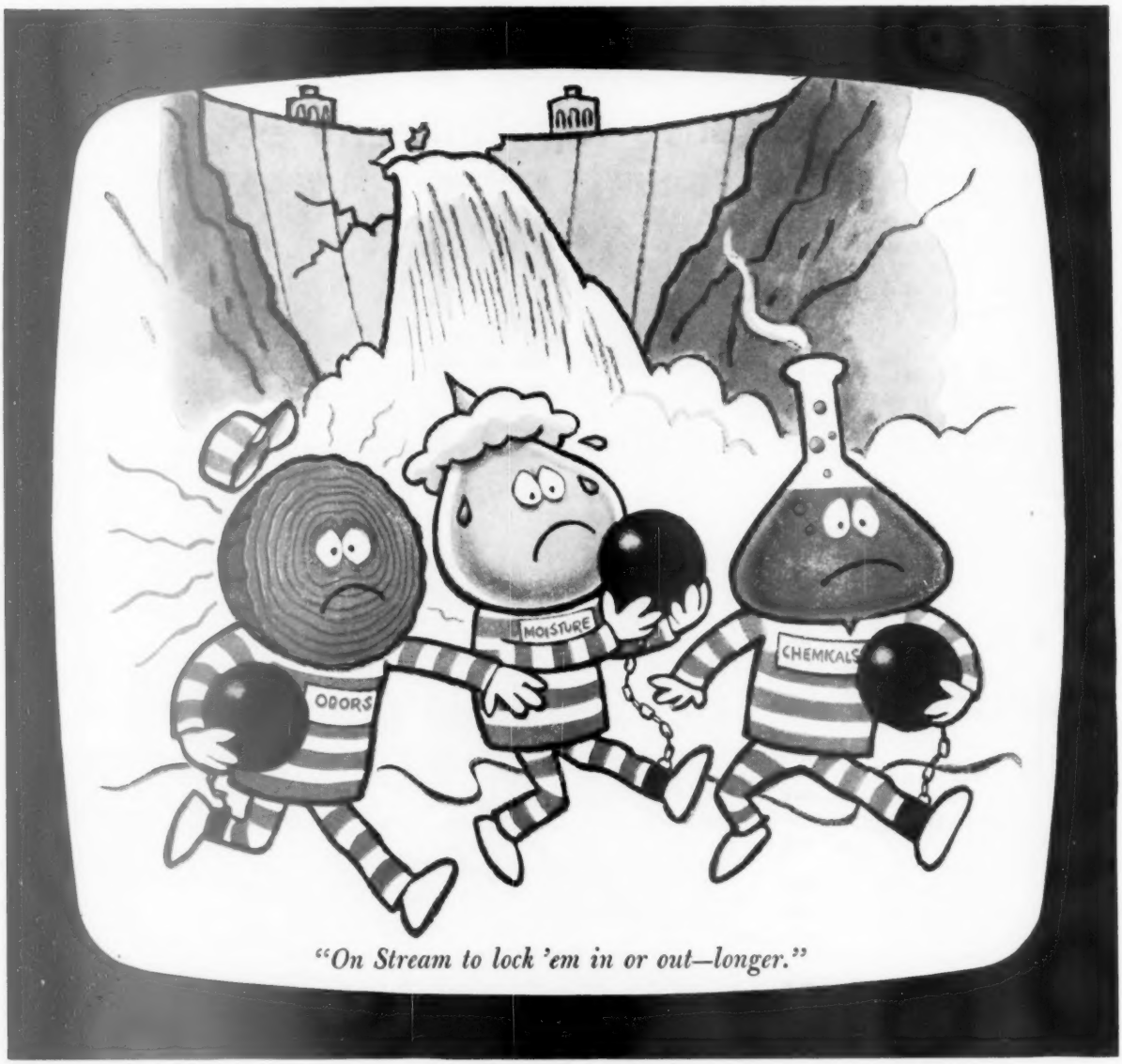
Dr. Strauss was an instructor in pulp and paper making at the New York College of Forestry for five years before joining Nekoosa-Edwards in September 1960. Previously, he spent five years in the paper industry with Hammermill Paper Co. and Bauer Brothers.

Strauss

Aubey

Mr. Aubey has been with the company's research department since April 1954. He was formerly associated with Western Condensing Co. and U. S. Forest Products Laboratory.

James Tracy, a chemical engineer in the Port Edwards mill since July 1960, has been promoted to techincal control supervisor at that mill. He is a graduate of Univ. of Wisconsin.



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POLYVINYLIDENE CHLORIDE LATEX FOR PROTECTIVE COATINGS

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RESYN 3600 promises a revolution in protective coatings with simple low cost application by high speed coating machines or spraying. Its barrier properties are exciting and exceptional:

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RESYN 3600 can be coated on paper, paperboard, plastic and other substrates. It also may be applied to fibers. It is of interest to a broad range of industries, including food and other types of packaging, converting, chemical, and textile. Call or write your nearest National office for full information.

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And All Principal Cities in the United States, Canada, England and Mexico

Bob Nash joins Stora Kopparberg

NEW YORK—Robert L. Nash, who has been active in cellulose sales for 13 years, has been appointed to a newly created position, vice president in charge of pulp, Stora Kopparberg Corp., 230 Park Ave., New York, according to Karl A. Clauson, president.

Mr. Nash not only will have charge of sales of pulp from the parent firm, Stora Kopparbergs Bergslags AB, of Sweden, and the Nova Scotia Pulp Co. (Stora-Scott), starting up next January in east Canada, but he also will be responsible for all other phases of pulp business—freight rates, shipments, quality control and technical services.

Mr. Nash belongs to a family widely known in the industry. He was raised in Bronxville, N. Y., attended the University of Texas, and after military service joined Weyerhaeuser Co.'s pulp division at Everett, Wash., operations. He moved to New York later to enter sales and was recently assistant to the vice president, pulp sales, and eastern pulp sales manager. Last year Mr. Nash was elected president of the Pulp, Paper and Paperboard Export Assn.

Nash

Jacoby named to important post by Crown

SAN FRANCISCO—Walter S. Jacoby has been promoted to product manager of special papers for Crown Zellerbach's manufacturing division. He has been supervisor of product quality and development at the corporation's Camas, Wash., mill div.

His appointment becomes effective May 1, at which time he will move to new quarters in San Francisco, where Crown Z headquarters are located.

Mr. Jacoby has been in the paper industry for the past 27 years, joining Crown in 1934, at Camas after receiving his degree in chemical engineering from Montana State College.

He advanced through various positions including laboratory chemist and asst. technical supervisor and became technical supervisor in 1945. In 1952 he was named asst. sulfite supt. and in 1956 became manager of pulp production at the St. Helens, Ore., div. He returned from Camas in 1958 when he was made supervisor of product quality and development.

Jacoby

STRICTLY PERSONAL . . .

East

Colin Gardner III is now vice pres., and gen. mgr. of mills operations, Standard Packaging Corp. He was formerly group v.p. of Diamond National Co.

L. B. Pitts, gen. mgr., Corrugated Container Div., Continental Can Co., announced that **J. R. Bevers,** formerly with the James H. Matthews Co., is now sales mgr. for corrugated displays with headquarters in New York.

Peter Riegel has joined the design engineering staff of Downingtown Paper Co. as project engineer, and will plan and design new equipment installations and improvements. . . . **Orton F. Hutchinson** is now mgr., sales to the paper industry in the U.S. and Canada for Peter Cooper Corp. . . . **Thomas M. Fry** moves up as vice pres., The Narrow Fabric Co. . . .

Thomas G. Mangan, retired engineer and mill mgr., International Paper Co., received the 1961 Honor Award presented by the U. of Maine Pulp and Paper Foundation. . . . **Charles "Buzz" Hillman** joined Crocker, Burbank & Co., Ass'cn. as plant engineer. He was formerly division staff engineer at Beloit Iron Works. . . .

For the first time in the history of the 107-year old S. D. Warren Co., "outsiders" are now on the board of directors. At the annual meeting, **O. Kelley Anderson,** president of New England Mutual Life Insurance Co. and **Halsey Davis,** president, George C. Shaw Co., were elected directors. Retired directors were **Ellsworth Geist,** vice pres., and advertising director and **Everett P. Ingalls,** former vice pres., i/c manufacturing. . . .

Hobbs

Levis

Edward D. Hobbs has been appointed general mgr. of Bahamas, marine, and allied operations for the Owens-Illinois Mill Div., and **John P. Levis, Jr.,** is asst. to the general mgr., it was announced by **C. G. McLaren,** Owens-Illinois vice pres. and general mgr. of the Mill Div. Mr. Hobbs takes on additional job of running Bahamas pulpwood operations.

Continued on p. 78

ORISKANY FELTS' '3-Point Service' starts with our Sales Engineers

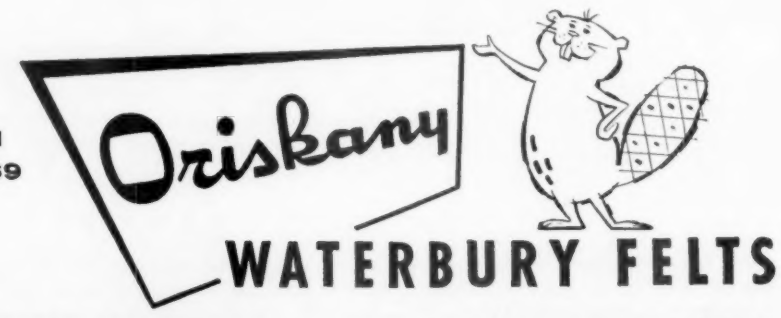
The man from Oriskany who calls at your mill is particularly qualified to assist you with your felt problems. He has had intensive training in our production methods, and he is fully familiar with the special technical help we offer. His eagerness to serve you is matched by the team of highly-skilled specialists at our mill.

1. Felt design service... Our technical engineers and our production staff analyze your requirements for finish and drainage and fiber strength, and then they design your felt with the proper characteristics for your particular machine operation. *Result: More uniform paper products, better quality, less down-time.*

2. Laboratory testing service... With our specially-designed testing equipment, we can determine whether your press rolls are causing uneven felt wear. Our chemists can recommend one of our exclusive treatments to prevent bacterial damage or chemical deterioration. Oriskany's laboratory analysis service can help you *prolong felt life, reduce operating costs.*

3. Technical engineering service... If you prefer an 'on-the-spot' evaluation of your felt problem, we will arrange to have one of our competent Service Engineers visit your mill. He will make a thorough investigation and report his findings to our designers. When they have had all the facts, they have been eminently successful in solving unique problems. *Their combined experience is at your service.*

Domestically owned and operated since 1869



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On the job, you'll find Powell's good design and workmanship result in minimum maintenance that means lower operating costs too. For more information and assistance, contact your nearby Powell distributor, or write us direct.

*Registered trade name of The International Nickel Company.
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150-pound Stainless Steel "Y" Valve. Outside screw rising stem and yoke. Bolted flanged bonnet. Integral seat. Available only with flanged ends. Fig. 1944 in sizes 4" through 8". End flange and face to face dimensions conform to MSS SP-42 Standard.

150-pound Stainless Steel O.S. & Y. Gate Valve Fig. 2453OG, with split wedge, in sizes 2½" through 8". Also available as Fig. 2453SG with interchangeable solid wedge in sizes 2½" through 18". Two designs: one-piece yoke, 2½" through 4" and separable yoke arms, 5" through 18".

200-pound W.O.G. Swing Check Valve, Fig. 2192. Body and bolted cap are Ni-resist. Valves through 8" have renewable Type 316 stainless steel seat ring, disc and disc holder; discs in 10" and 12" valves are Ni-resist with Type 316 stainless steel facing. Sizes, 2" through 12".

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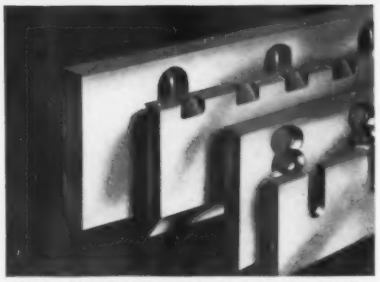
THE WM. POWELL COMPANY CINCINNATI 22, OHIO

The ALL-NEW SIMONDS "SI-NAMIC"® Paper Knife

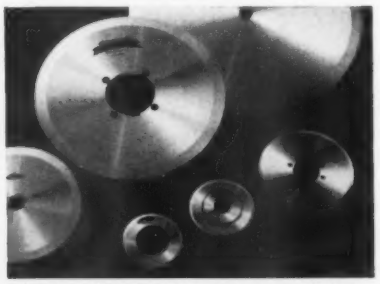
- *Actually Stays Sharper Up to 100% Longer*
- *Materially Reduces Dust*
- *Virtually Eliminates Drag*

Now there's an all-new member of the Simonds family of knives, saws and files—the brand-new Simonds "Si-Namic" paper knife. Here's a knife that incorporates a brand-new steel mix — developed and produced in Simonds own Steel Mill — and a new finish. Combined, they offer you the sharpest, smoothest, longest lasting cutting edge available — and at competitive prices.

Add to this Simonds dependable chipper knives and circular cutters and you can see why, more than ever, your Simonds Industrial Supply Distributor is your number one source of supply for dependable cutting tools.



Simonds T-18 chipper knives are extra tough for giving you more heavy cuts at high speed, for more usable chips and less waste dust.



Whether it's the thinnest tissue or thickest board, Simonds circular cutter, slitters and perforators cut smoothly, easily, truly. There's no better value for your cutter dollar.

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MEETINGS

. . . March

Southeastern Section TAPPI, Bon Air Hotel, Augusta, Ga.—Mar. 24-25

National Paper Trade Assn. (annual meeting), Waldorf-Astoria Hotel, New York, N. Y.—Mar. 26-29

Miami Valley Div. PIMA, Springfield Country Club, Springfield, O.—Mar. 30

. . . April

Kalamazoo Valley Section, TAPPI, Inmans Restaurant—Apr. 6

Louisiana State Univ. 10th Annual Forestry Symposium, Baton Rouge, La.—Apr. 6-7

New York State Canadian Div. PIMA (spring meeting), Eastman Kodak Co., Rochester, N. Y.—Apr. 21

. . . May

Pacific Coast Div. PIMA (Joint meeting with TAPPI, CPPA), Harrison Hot Springs Hotel, Harrison Hot Springs, B. C.—May 4-6

TAPPI Coating Conference, Statler Hilton Hotel, Buffalo, N. Y.—May 8-10

Pulp & Paper Instrumentation Symposium (Sponsored jointly by TAPPI and the Instrument Society of America), Northland Hotel, Green Bay, Wis.—May 10-12

National Paperboard Assn., The Fairmont Hotel ,San Francisco, Cal.—May 10-12

Institute of Paper Chemistry Executives' Conference, Institute of Paper Chemistry, Appleton, Wis.—May 25-26

. . . June

PIMA National Meeting, Hotel Robert Meyer, Jacksonville, Fla.—June 7-9

Sixth Industry Seminar, Institute of Paper Chemistry, Appleton, Wis.—June 11-30

Zellcheming (Germany's annual technical meeting), Baden-Baden, West Germany—June 27-30

. . . August

TAPPI Lignin Symposium, Edgewater Beach Hotel, Chicago—Aug. 14-16

Fourth International Mechanical Pulping Conference (CPPA, TAPPI), Edgewater Beach Hotel, Chicago—Sept. 19-21

. . . September

Northwestern Div., PIMA (fall meeting), Faust Hotel, Rockford, Ill.—Sept. 20-22

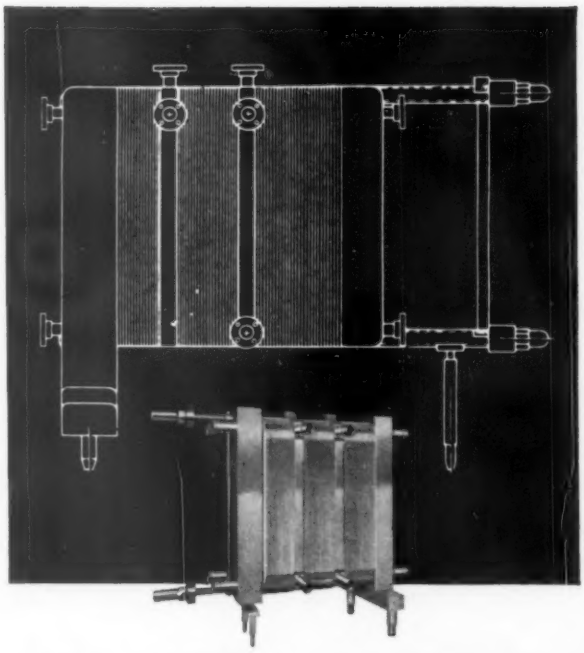
British Paper and Board Makers Assn., International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

. . . October

TAPPI (USA), Annual Engineering Conference, Shoreham Hotel, Washington, D. C.—Oct. 15-19

. . .November

TAPPI (USA), Annual Alkaline Pulping Conference, Rice Hotel, Houston, Texas—Nov. 1-13



BILLIONS OF BTU's RECLAIMED from spent sulfite liquor ...by De Laval Plate Heat Exchangers

Many pulp mills are using De Laval Plate Heat Exchangers to reclaim heat from spent sulfite and blow steam condensate. The savings are impressive. In a typical installation a 15′ x 3′ x 6′ De Laval Exchanger recovers 14,000,000 Btu hourly, and only requires 1600 sq. ft. of heat exchange surface to do the job. The all-stainless construction is unaffected by the corrosive sulfite and requires virtually no cleaning or maintenance. Savings are approximately $60,000 a year.

These units are so compact that they are usually installed in "waste" space, requiring only piping connections. Stream capacities range to 500,000 lbs/hr. De Laval Plate Heat Exchangers can be tailored to present plant needs, yet provide for very economical expansion at any time.

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*Idea submitted by William A. Steadwell, St. Regis Paper Co., Jacksonville, Florida
Photo by: Louis C. Williams, Nashville, Tenn.

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"So if *you* want felts
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consistent, high quality performance,
and economical long life,
look to Hamilton Felts.

"If one of our 300 modern,
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won't solve *your* specific problem,
we'll be happy to design
a Hamilton Felt that will.
Just ask your Hamilton Felts Service Salesman."

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"What famous place reminds you of Hamilton Felts? Tell us why in a few words; sign your name and address and name of company . . . Each idea from a U.S. papermaker that we use wins a new 1961 model Shakespeare Spincast Rod and Reel—FREE! When identical winning ideas are submitted by 2 or more papermakers, the one with the earliest postmark will be considered the winner. Every U.S. papermarker entrant receives a famous Rex Spoon fishing lure—FREE. Send me your suggestion—today. Ham Feltz, Dept. PP, 612 First Nat'l. Bank Bldg., Cincinnati 2, Ohio."

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Created *BY* Papermakers *FOR* Papermakers

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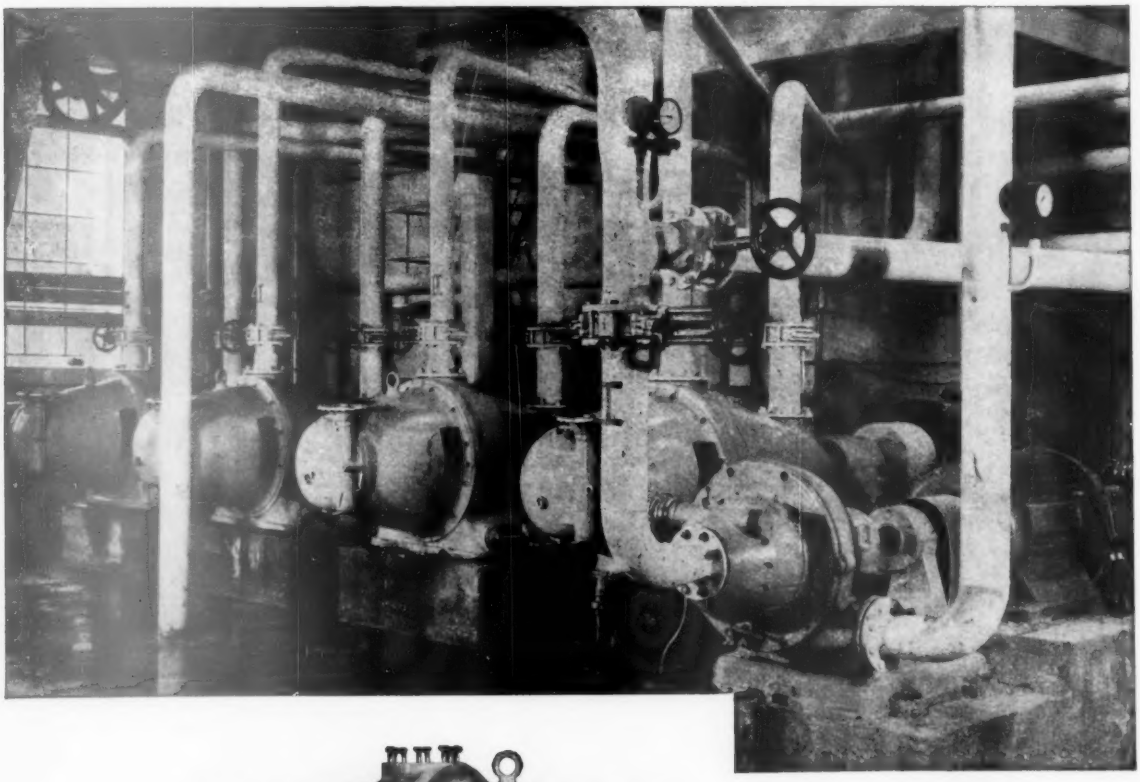

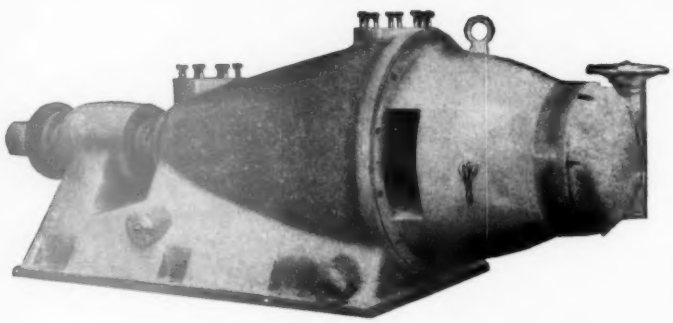

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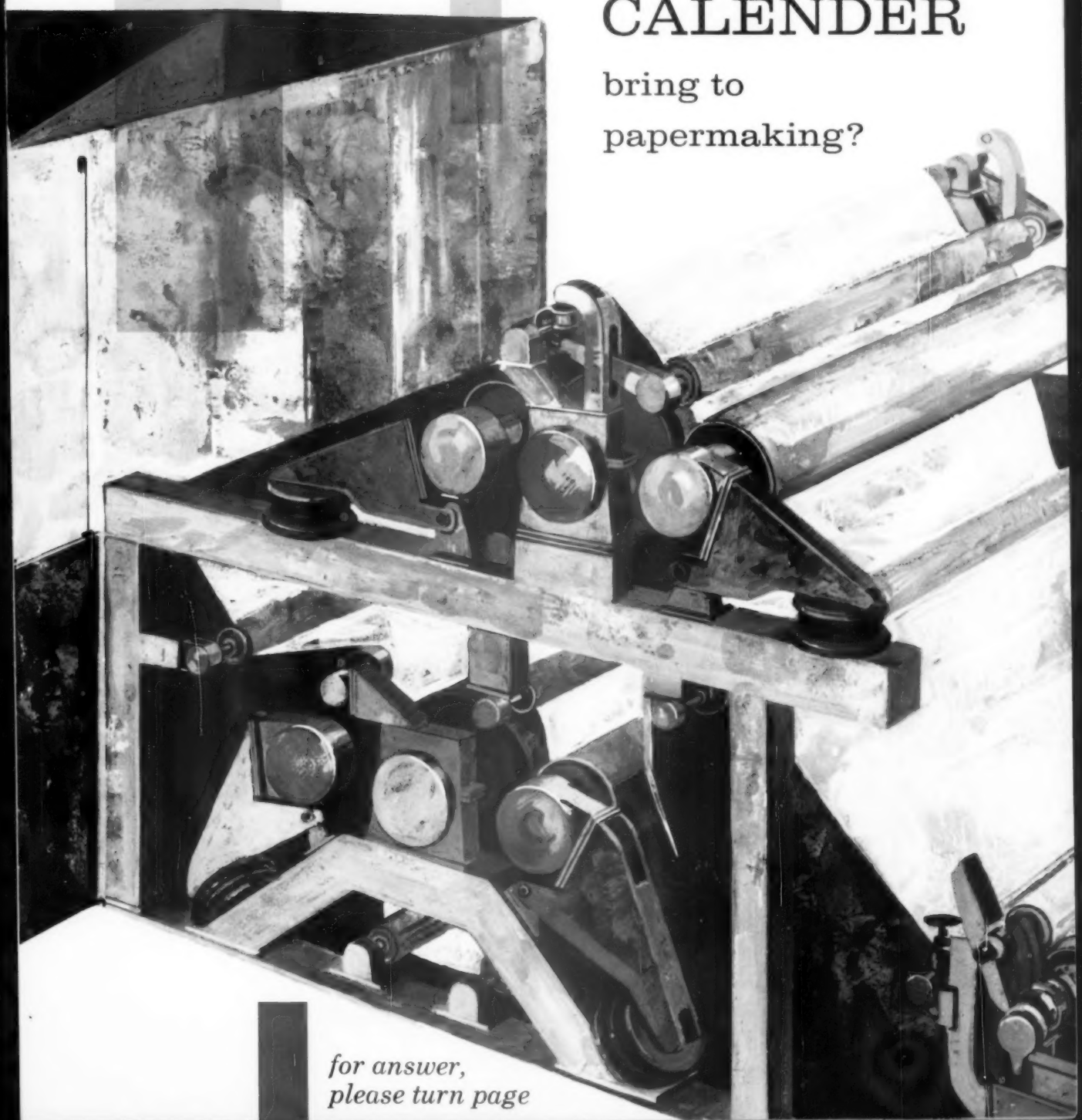
new developments
does the

BELOIT GLOSS CALENDER

bring to
papermaking?



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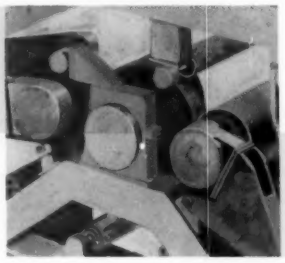
Beloit GLOSS CALENDER*

brings an improved calendering method to papermaking



While conventional machine calendering is accompanied by reduction in bulk, reduction in sheet strength, and other disadvantageous conditions, the BELOIT GLOSS CALENDER gives promise of producing equal or better finish while preserving bulk and strength.

Many intriguing possibilities are indicated for printing papers, food boards, pretreatment, and final finishing of coated papers, envelopes, and folding boxboards.

In operation, easy handling and improved machine efficiencies should result. The BELOIT GLOSS CALENDER may be used on or off the machine.

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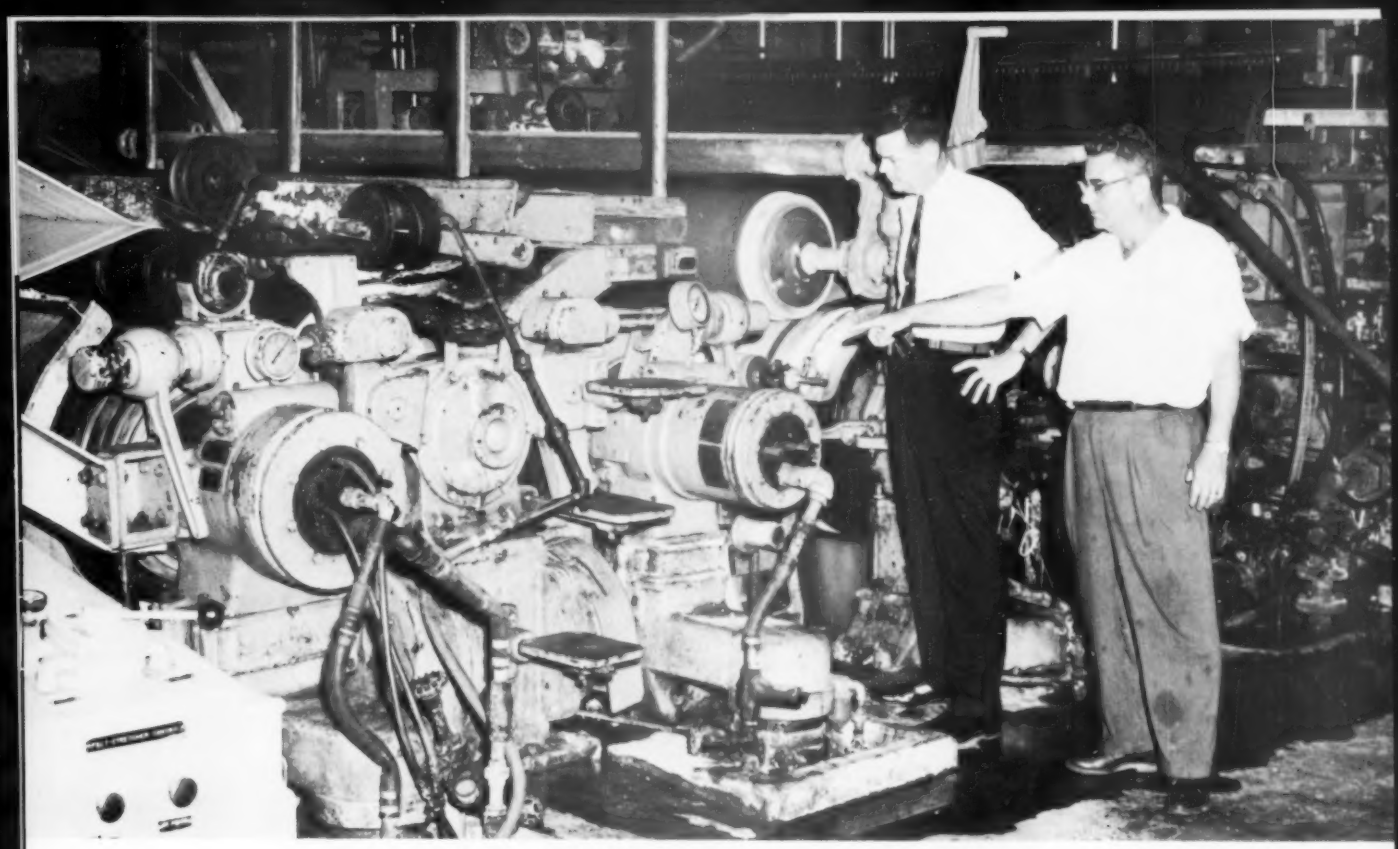

L to R James W. Clark, Huyck Sales Engineer and C. A. (Buck) Barlow, Paper Mill Superintendent

HIGH Performance from HUYCK

at Gulf States Paper Corporation

Here is testimony to the fact that Huyck Felts cost less over the "long run."

At Gulf States Paper Corporation, Tuscaloosa, Alabama, a Huyck Felt, incorporating the improved performance characteristics of Resistex® Felts, set an all-time mill record. An excellent startup and consistent high product quality were outstanding features of the record run.

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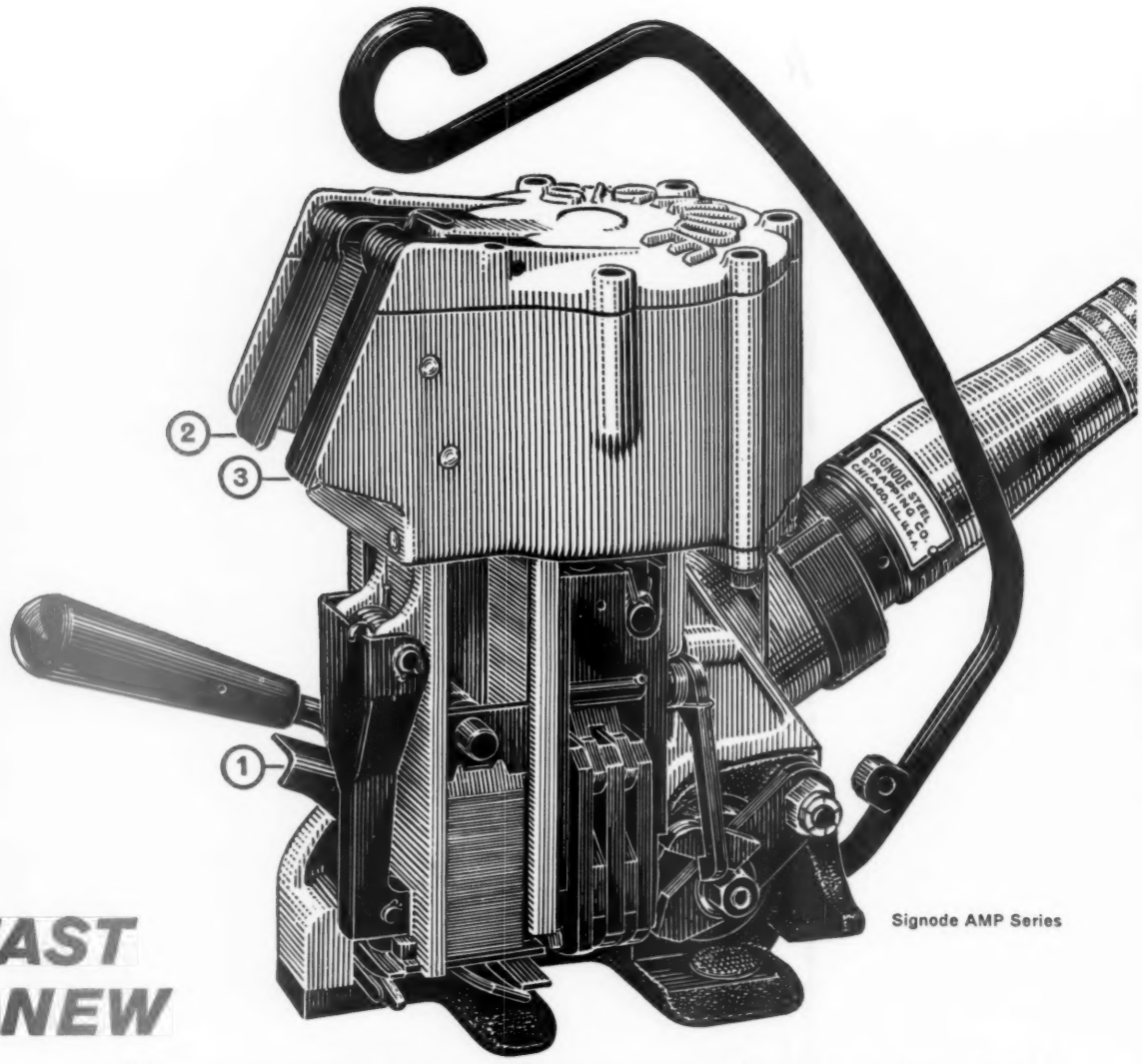
In Canada: Kenwood Mills Limited, Arnprior, Ontario

FIRST IN FELTS SINCE 1870



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FAST NEW all-power strapping tool

- Air power tensions, seals, and severs the strap.
- All the operator does is depress lever #1, insert the strapping, press the tensioning lever (#2), then the sealing-severing lever (#3) and remove the tool.
- Tensioning can be stopped (and held) at any time, as for the insertion of edge protectors.
- Uses new easy-loading Signode NESTACK seals that come in nested stacks (no retaining wire) that eliminate waste, spillage and delay.
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- Compact balanced design and short base make tool easy to use on small as well as large surfaces.
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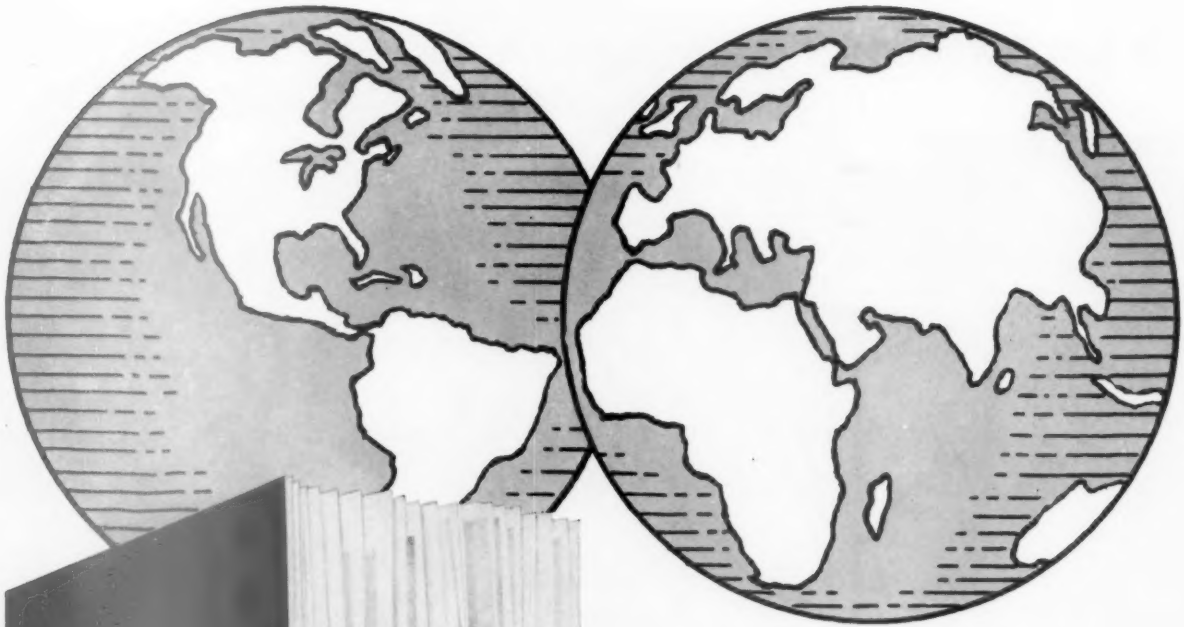
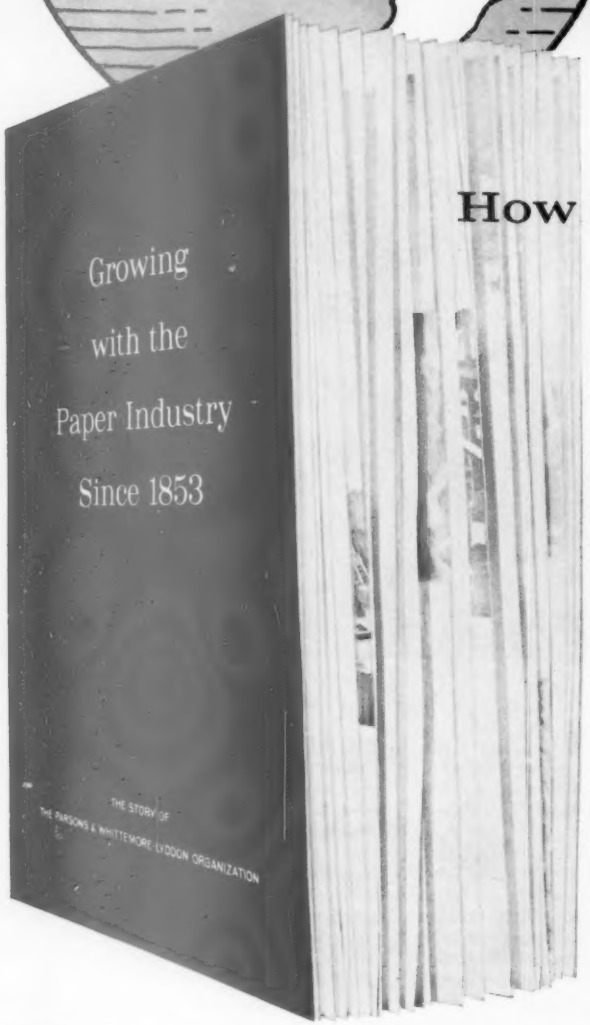
City_____ Zone____ State____





How Parsons & Whittemore develops Pulp and Paper Mill projects around the world

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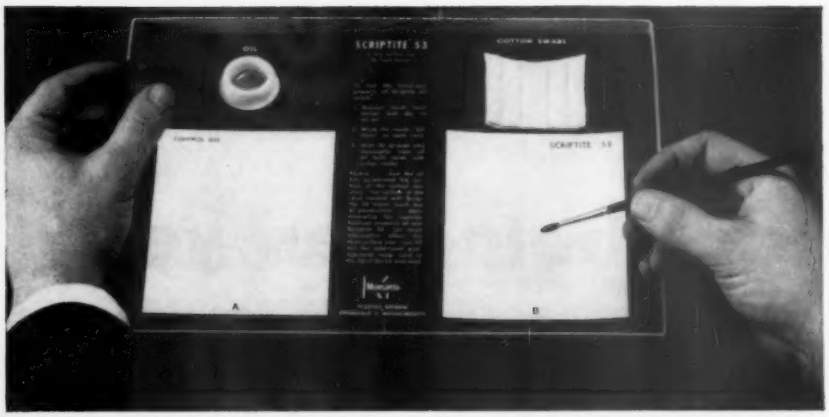
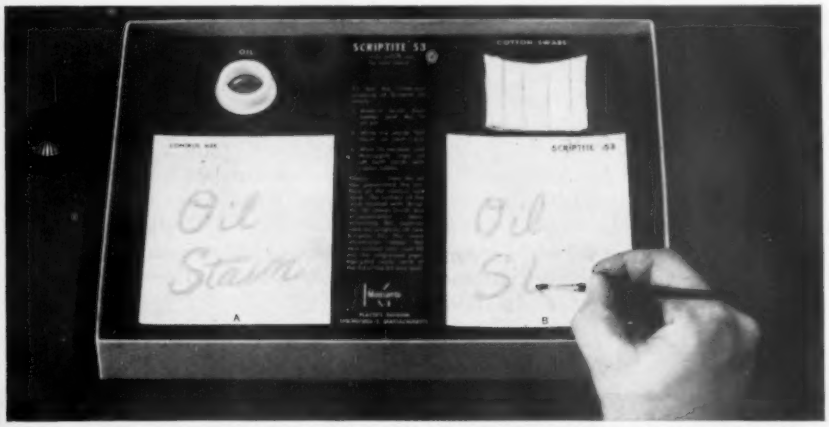
This 30-second test proves the superior hold-out qualities of new

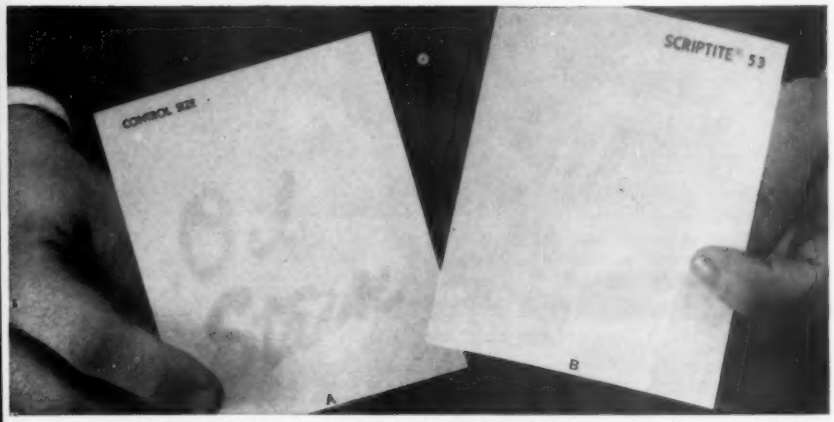
SCRIPTITE® 53



Paperboard A has a starch ether surface size. Paperboard B was treated with new Scriptite 53 surface size.



OIL was brushed on both A and B, allowed to dry 30 seconds, then wiped off.



Note how oil has penetrated surface of card A far more than on card B, demonstrating the superior hold-out property of Scriptite 53. You can make this simple test yourself. Ask your Monsanto representative to show you the special Scriptite 53 test kit.

Food board has clearer, brighter appearance when it has been treated with Scriptite 53. This new Monsanto surface size improves wax hold-out on food board and light waxing grades of paper for packaging and laminating. Scriptite 53 keeps the wax coating evenly distributed on the surface of the board, stopping excessive internal penetration of the coating which gives food board a dull greyness.

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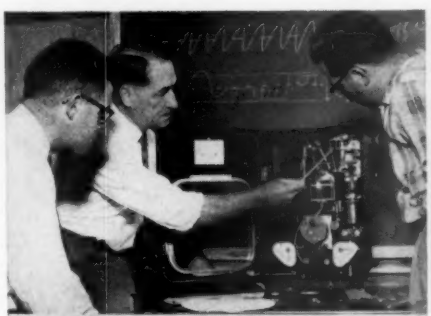
5 ways Bristol advances instrumentation



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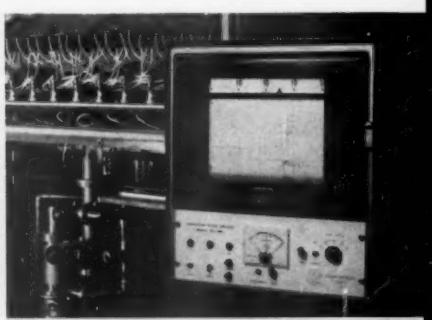

2. CO-OPERATION with other instrument designers. Example above: F. J. Cooke Ionization Gauge, incorporating Bristol Dynamaster.

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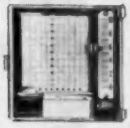
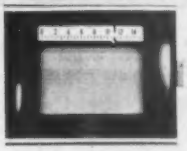
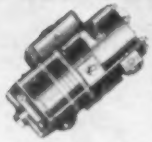


Miniature Electronic Dynamaster* Potentiometer or Bridge — recording model.

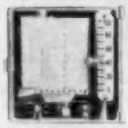
Metagraphic Pneumatic Transmitter.



Electronic Dynamaster* Potentiometer or Bridge — strip chart.



Metagraphic Pneumatic Controller.



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... that Bristol has one of the largest facilities in the country devoted exclusively to printing of instrument charts — printing a tremendous variety of special charts for custom instrument builders?

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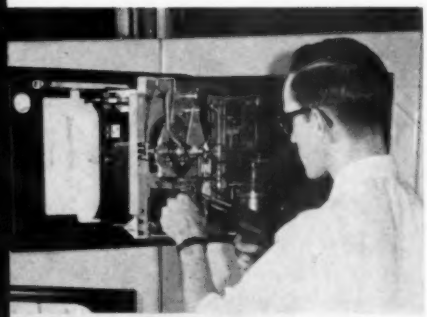

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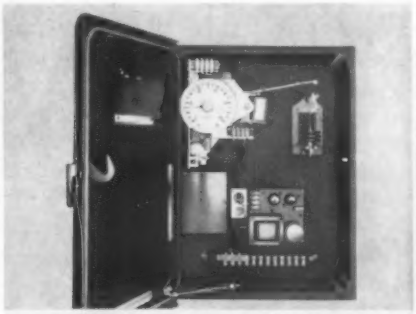

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PULP & PAPER

A WHITE HOUSE REPORT

By ALBERT W. WILSON, The Editor

The President Takes A Stand On Natural Resource Issues

When the smoke began to clear from President Kennedy's multi-gun blast on the natural resources issue—he demanded federal intervention to halt air and water pollution . . . federal aid to small landowners . . . more national parks . . . 55 million acres of "wilderness" to be set aside for the public—a White House secretary interpreted some of these points for this writer:

1. Mr. Kennedy will pursue a middle course between what Senator Kerr of Oklahoma and Congressman Blatnik of Minnesota are asking for assistance to municipalities in pollution abatement . . . meaning he will probably ask for $100 million.

2. He is committed to strengthened federal enforcement procedures for both air and water pollution through what, our White House informant said, probably will be a bureau within the Public Health Service. The President had only defined it as a "special unit" in his message. Abraham Ribicoff, secretary of Health, Education and Welfare, already has conferred with Rep. Blatnik, whose controversial bill (H.R. 4036) would create a water (only) pollution control outside of Public Health Service.

3. The President does not favor federal action to halt pollution of interstate waterways. But in intra-state waterways he approves action if a municipality or state requests it, in both cases with approval of the governor of that state.

4. In the flood of propaganda now going to women's and outdoor clubs and other groups all over the country on the pollution issue, a fantastic claim is made that by 2000 A.D. the pulp and paper industry will need four times as much water as it uses today. But President Kennedy is having no part of these claims. The White House secretary said the President would be glad to know the paper industry is continually finding new techniques to make paper with less water.

5. President Kennedy is opposed to the use of federal funds for "subsidies" or "parities" or any other such outright grants for the small woodlot owner or pulpwood farmer, but he supports the use of funds for technical assistance. Also, he wants more federal timber made available to "small businesses" and wants more access roads built into federal forests.

6. President Kennedy was represented as feeling that the long-disputed "wilderness protection" bill (Senator Anderson's S. 174) has been sufficiently modified and perfected to a point where he can support it. He does not agree with the American Pulpwood Assn. that he should wait for the report next year on recreation needs by Laurence Rockefeller's non-partisan commission. White House view is that the President's decision is based on broader aspects of recreation than is within the scope of the Rockefeller commission's study.

Kennedy on resources . . .

Much industry confusion arose over the President's message on natural resources of Feb. 23 because he had come out for Rep. Blatnik's H.R. 4036 quite strongly and yet wanted federal pollution control kept within the Public Health Service. The Minnesota Congressman takes a contrary view but he is certain that differences will be smoothed out amicably with the administration.

There is a Public Health bill which would create a bureau of environmental health as a division of the Public Health Service. This, it appears, is what Mr. Kennedy favors and Mr. Blatnik, amicably or not, is likely to have to settle for.

A whole flock of pollution bills is going into the pot in Washington but they will all shake down to pretty much what the President wants, most observers believe. S. 861 is companion bill to H.R. 4036.

There has also been much conjecture about what the President meant by his vague term "a special unit." It is now determined that this would be a bureau with greater powers than the federal government ever had before. The President was represented as feeling that the states have not done an adequate job in controlling pollution on streams that cross state lines.

The White House informant, remarking on expressed fears that every little ditch and creek would come under possible federal control, conceded that there is "quite a large body of law" about what constitutes a navigable river—the term adopted in most bills—but the President will seek to make some sense out of these definitions. It was indicated he may feel that Rep. Blatnik goes too far. It can be expected the President will eventually reach a decision as to what he considers a fair limitation on waterways coming under federal pollution control.

The President also favors S. 120,
which is Senator Kerr's bill. This bill is not so concerned with enforcement as Rep. Blatnik's but more with increasing research facilities.

There is one portion of Senator Kerr's bill, however, which would give powers to determine benefits of water supply augmentation to meet low flow periods, which most observers predict will bring a fight from Army Engineers. This appears to be invading their long-held bailiwick of control. Low flow augmentation is a measure which is more important in western than eastern United States, where treatment, disposal and utilization are about the only practical ways open to handle polluted materials.

The Kerr bill would increase federal assistance to municipalities from $50 to $75 million. The Blatnik bill would go to $125 million. The Kerr bill limits maximum individual grants to $400,000 (it was $250,000), but Rep. Blatnik would go as high as $600,000. As stated, the White House indicated that the President is likely to take a middle course—for example, probably limiting federal assistance to about $90 or $100 million, and grants to about $500,000.

Senator Kerr's special interest in these problems is in his capacity as chairman of the Upper Chamber's subcommittee on flood control, rivers and harbors. His bill has less enforcement language than Rep. Blatnik's, but he is pretty certain to stir up the Army Engineers Corps.

Rep. Blatnik's secretary told the writer that there are many places where the federal government should step in. It was noted that the federal government is presently in a lawsuit with St. Joseph, Mo., over the pollution problem.

Rep. Blatnik's secretary contended that when an industry committee came to Washington about a year ago to protest federal funds being used to help "a little community" in solving an alleged pollution problem, a senator asked how much tax write-off the industry wanted for its investment in pollution control measures. The claim of Rep. Blatnik's assistant was that the sum almost exactly equalled what the government was going to give the municipality. "We can't go to bat for rapid tax write-offs for industry if industry attacks us when we are trying to help out some little community," he added.

Facts as to industry efforts
are that the pulp and paper industry investments to control or abate pollution totalled over $100 million spent in the last ten years. There was no possible return whatever for these investments, in most cases.

At the National Council for Stream Improvement sessions during Paper Week, Dan Cannon, a water conservation specialist for the National Assn. of Manufacturers, presented evidence that some of the pollution information issuing from Washington had grossly exaggerated the future water needs of the industry. The claim that four times as much water will be needed by pulp and paper mills in 40 years is not consistent with the record—in the years since the war in which this industry has tripled its production it has only doubled its water use. Some mills have performed remarkable technical feats in reducing water needs.

A paper industry position
will be taken by American Paper and Pulp Assn. before long. It will come out with a reply to President Kennedy's natural resources message and the various proposals of Congress. The public affairs committee of the association is at work on the task right now.

President Kennedy tempered his stand
on many controversial forest and water resource issues, in just the last days before he delivered his message. This was indicated by reports in Washington at the time.

It is certain that there were strong pressures upon him to take a more radical position. From reliable newspaper sources, it was learned that the President had given serious consideration to the possibility of creating one single powerful body in the nation with powers in all the varied fields of natural resources. News of this proposal trickled out at the time of his message but it is understood he finally decided against it, after considering it for some time.

The proposals for allocation of water for swamp drainage is a much-disputed point in the congressional debates on these waters which is meeting especially with industry criticism.

The Forest Industry Council has stated its position on small woodlands operator aid measures. There is a strong

fear that the President may be opening the way to wasteful use of millions of dollars in federal funds to subsidize the small woodlot owner. As reported, the White House informant says this is not so—the President only supports technical or similar assistance, aiming to raise management standards and production.

Interior vs. Agriculture fight
is on again, as revealed in the President's message in which he takes the side of National Park Service (Interior) for more land to be sequestered in parks. The Forest Service (Agriculture) has long been fighting a running battle on this issue. It fears more parks would be created at the expense of the national forests, which it controls.

Interesting in Mr. Kennedy's statement of policy was his advocacy of accelerated forest development on federal public lands as not only "a long term investment measure" but also as "an immediate method of relieving unemployment."

It will be interesting to watch how long this latter argument will hold. Edward Gudeman, Jr., under secretary of Commerce and former brilliant Sears-Roebuck executive, told PULP & PAPER in an informal chat just a couple of weeks ago, that "maybe in a few weeks, there will be improvement in business conditions" and with this, of course, would be a decline in unemployment. Mr. Gudeman said "if we are at rock bottom now, and there are indications that we are, we can expect a steady rise."

Opposing wilderness protection
bill of Senator Anderson are the Chamber of Commerce of the United States, National Assn. of Manufacturers, American Pulpwood Assn., Lumber Manufacturers Assn. and mining, oil and gas interests. Their view is that setting aside an additional 32 (revised downward from 55) million acres for recreation is neither necessary nor desirable.

The APA is opposed to passing the bill at this session because it believes the report of the seven-man bipartisan national outdoor recreation review commission under Laurence Rockefeller should be given a chance to make its report first. This was expected in September, but now seems unlikely until next year.

The Chamber of Commerce contends the government has sufficient authority now to preserve national parks and game refuges. There is no crisis, it contends. Wilderness areas have been well managed for years and will continue to be adequately managed and protected, it said.

But the water, minerals, gas and oil, forage and forests in these 32 million acres may be needed for orderly, national growth. This should be allowed, the Chamber said.

In this connection, it is noted that President Kennedy himself came out for "multiple use" of national resources, and this is a policy strongly advocated by the Forest Service and backed also by leaders in this industry.

In many of the national parks
and forests, especially in the Olympic range and other forests in the Far West, there are virtually impenetrable areas. There are many areas only seen by strong hikers, or wealthy persons who can buy expensive equipment for mountaineering, etc. A special "privileged" few, it might be said, are the only part of the nation's populace who can enjoy these wildernesses which already are, in the case of the national parks, locked up against any commercial use, even though old and dying trees must be left to rot, and the undergrowth piles up to make it increasingly harder to get through these woods. In the national forests, where some cutting is allowed, there are not enough roads, says the Forest Service. It is obvious that no American tourist can drive with his family over some of the primitive roadways without damage to his car. Roads are still needed in lands already preserved for the public.

These are some of the things pointed out by pulp and paper industry leaders, who at the same time say they are willing to agree with President Kennedy that there should be more picnic grounds and seashore areas opened to the public, and in some parks, they admit, there is overcrowding now.

Position of American Pulpwood Assn.
in hearings on Sen. Anderson of New Mexico's S. 174 was stated only recently in a hearing in Washington by W. C. Hammerle, forester. The APA opposes the bill, he said, on grounds that it is unnecessary, it would "freeze" large areas of land and resources for single purpose only, and that passage of any legislation before the Rockefeller commission report would be premature. It opposes locking up large areas for "all time for the benefit of a select few."

Senator Anderson was willing to accept minor amendments to get his bill out of committee onto the floor of the Senate. Senators Allcott (Colo.) and Goldwater (Ariz.) were interested in making major changes.

Other APA policy statements
on the subject of a federal recreation policy were approved by APA's executive committee. It includes the following points pertaining to public or private forests:

1. The industry favors recreational use of forest land under the multiple use concept. For wilderness areas the industry favors area limitations in keeping with sound economic and recreational needs of the total population.

2. The industry favors fees or charges for public use of special recreational facilities and services.

3. Either the owner of the land, or the leasee, should be encouraged to provide for construction, maintenance and operation of such recreational facilities as would be necessary to carry out recreational objectives for the area.

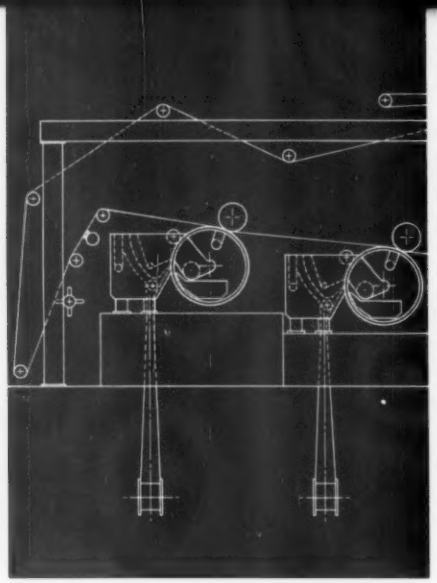
Because of expanding population and increasing leisure, APA members were urged to take part in planning recreational needs of the future for the public in cooperation with state, federal and local agencies.

APA recognized that improvements have been made in S. 174 as compared with previous bills. These are the improvements, presumably, which the White House press secretary told PULP & PAPER had now made the Anderson bill acceptable to President Kennedy.

But as far as APA is concerned, the basic objection to a "National Wilderness Preservation System" remains. ■

How Sorg's Multi-unit ROTOFORMER

improves sheet formation, produces a drier sheet going into press section through use of three successive wet end units . . . .



Middletown, Ohio At Sorg Paper Co., the wet end of its five cylinder No. 2 paper machine has been replaced by three Sandy Hill Iron and Brass Works Rotoformers. The move follows the installation a year ago of one Rotoformer on this same machine. So many advantages accrued from this single unit and so many possibilities were indicated that Sorg decided to install three of these vacuum forming units. No. 2 paper machine is 95 in. wide, trims 78 in. and produces tag and cover stocks, telephone book cover, other grades.

Advantages of the first Rotoformer were better sheet formation, more level sheet profile and a drier sheet going into the press section. There were additional benefits from the three units which went into operation on January 19. By replacing five cylinder vats with three Rotoformers, Sorg saved considerable space. The company used some of this space to expand its press section and at the same time there was enough room left over for additional dryers or presses when needed.

Another advantage of the three units is that Sorg expects substantial steam economy in drying. What's more, lump formation has been eliminated. After the sheet is formed it is not drawn through a pond or slurry and so formation is not disturbed. After the sheet has been formed, vacuum prevents slip back of stock.

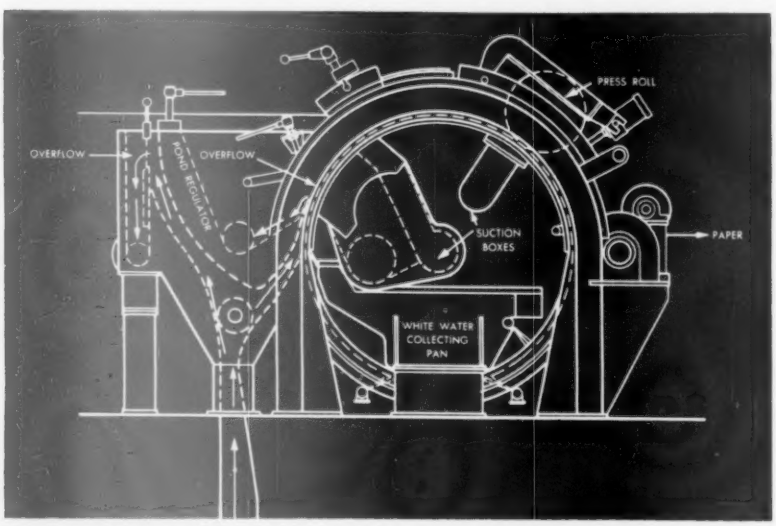
Paper travel of the three Rotoformers is towards the dry end. The first sheet is picked up farthest from the dryers and progresses in the same direction through the press section. Control of sheet dryness permits operation of a single Rotoformer without any pickup felt and makes it possible for Sorg to produce a sheet on either one, two or three Rotoformers.

A much shorter pickup felt can be used as a result of eliminating the need for the pickup felt going through the presses. In addition, felt cleaning problems are reduced since the fibers are not pressed into the felt weave.

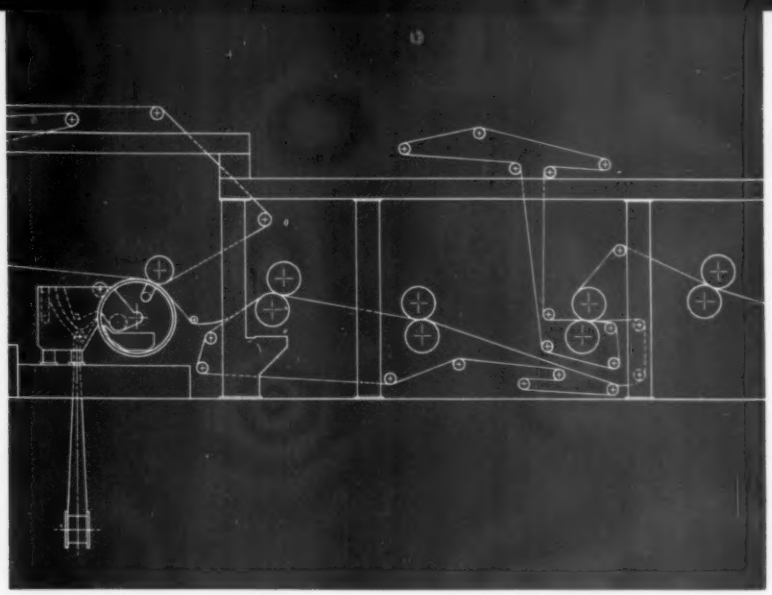
Since sheet wetness at point of pickup can be controlled on the Rotoformer, the installation was designed so that the sheets are picked up on the first two units and then sufficiently dried on No. 3 Rotoformer to permit the sheet to be passed over an open draw to the press felt. This dry delivery from the last unit permits the sheet to leave the pickup ahead of the first press.

Sorg reports that ply bond has been excellent and that there has been virtually no drop-off. Its experience indicates it may be possible to eliminate suction drum presses and reduce the number of primary presses in a board operation.

New press section includes a suction primary press, main press, plain reverse press, a smoothing press, and also a new tail section. A common bottom felt carries the sheet



BASIC ELEMENTS OF ROTOFORMER can be seen in this diagram. Vacuum forming unit features controlled flow of stock to the forming area; use of a patented pond regulator device and a uniform profile and improved formation in sheet formed. Unit is said to combine best features of cylinder and Fourdrinier.



PAPER TRAVEL (left) of three Sandy Hill Rotoformers at Sorg Paper Co. is towards dry end. First sheet is picked up farthest from dryers and progresses in same direction through press section. Control of sheet dryness permits operation of a single Rotoformer without any pickup felt and makes it possible to produce a sheet on either one, two or three Rotoformers. From No. 3 Rotoformer (below), sheet is seen traveling to the paper carrying roll, then to press felt. Felt can be seen traveling upward from couch roll to return felt run.

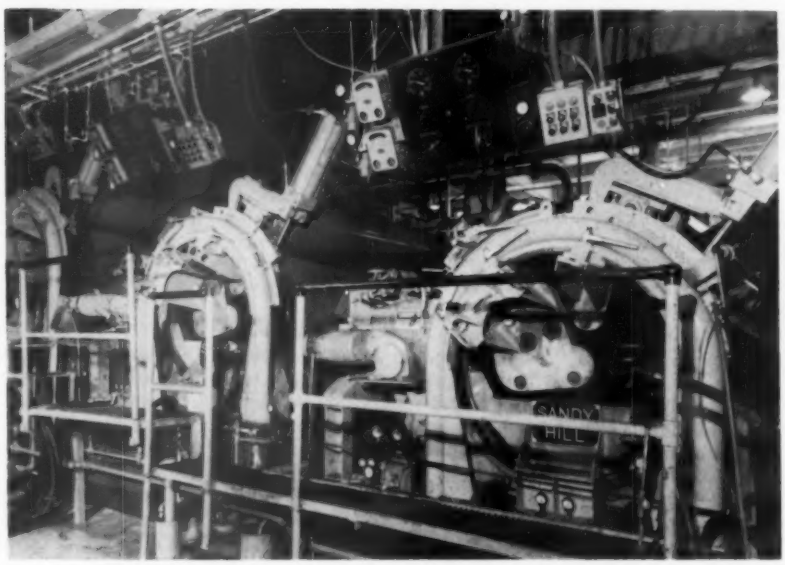
through the suction primary press and through the main press. The top felt is arranged so that the pickup felt can be carried through the suction primary and back to the Rotoformers. Instead of using a whipper on the bottom felt, the felt passes over a Mt. Hope roll immediately ahead of the Bird Vickery felt conditioner before returning to the suction primary nip. Glass covered doctors are used on the main and reverse presses.

Each Rotoformer is driven independently by an Eaton Mfg. Co. Dynamatic drive. Relative speed of the three Rotoformers is controlled by adjustments in the eddy-current coupling controls. Each couch roll is controlled by air-loaded cylinders and adjustments for loading and lifting are made from Foxboro panels at the tending side of the machine.

Key personnel responsible for experimental work were D. M. Yost, research and technical director, Donald J. Goodman, general supt. of papermaking, and Dorsey R. Morrison, supt. of Mill No. 1. I. D. Sisson, chief engineer, and his crew were responsible for general layout.

Carl H. Eisenmenger, vice president, operations, and President Donald G. Driscoll made the decision to install the three Rotoformers, the first multi-installation of these units.

Equipment for the new project includes: press section: Patton Mfg.; centrifugal pumps: Goulds, Allis-Chalmers; fan pump valves, DeZurik; vacuum pumps: Nash; suction press roll: Manchester Machine; vacuum controls: Mason-Neilan; pipings: engineered by Sorg, built by Brown-Singer.



How the Rotoformer works

Although there are more than 20 Rotoformers in operation today, this is the first time that a story has been permitted on a mill installation. Therefore, because of the little information available on operating performances, there is a special interest on how the Rotoformer works.

The Rotoformer has three basic elements: a headbox,, a drum and a suction box. Stock enters the headbox through a distribution system designed to produce good fiber dispersion in the slurry and to give a uniform flow onto the drum. Dispersion is furthered by one or more distributor rolls in the headbox. A recirculation feature permits a wide range of flows at differing consistencies through the headbox. The patented pond regulator further controls flow velocity through the forming area.

Pneumatically loaded packing rings seal the joining of the headbox and the drum. Stock flows to the drum over an apron and sheet forming starts at this point. The drum is a drilled, spokeless, open ended, rotating sheet former. It is wire covered. One or two pressure rolls may be run on the drum to increase water removal, give greater sheet density or improve finish. The suction box has multiple vacuum compartments inside the drum.

Stock is eventually distributed across the face of the forming unit. Velocity is controlled through the forming area by the pond regulator and by recirculation. Diluted stock at a controlled volume and speed flows to the forming element in a vertical direction, forming from this flow in a horizontal direction. A well formed sheet is laid on the wire and held there by internal vacuum, which prevents the sheet from slipping or sliding.

SUPERVISION METHODS:

What Makes A Good Supervisor —And What Keeps Him Good . . .

In a free-wheeling discussion, an expert has sage advice for the young technical man, the experienced supervisor, the newcomer

Atlanta, Ga.

"IF SUPERVISORS *with problems would treat their men with the same diplomacy as they treat their next door neighbor, half their woes would be over. . .*"

In his office at Georgia Tech's glistening new classroom building, Dr. Glenn Gilman, who has spent the better part of the last 15 years battling problems of human relations in industry, talked freely about supervision problems. By the time he was through answering the questions his answers, fired with the accuracy of a pistol rather than the scatter-shot of a shotgun, added up to a pretty good quickie course in supervision. Here's what he had to say.

Q. What is the most important characteristic of a good supervisor? A. The ability to understand and cope with human behavior. A good supervisor solves a problem, he doesn't erase it by exerting his authority. The supervisor must learn that frequently when a man gets sore or sullen, it isn't personal . . . he's not mad at the supervisor, he's just venting his spleen on the nearest man representing management. Find out WHY the man is upset and you'll solve your problem.

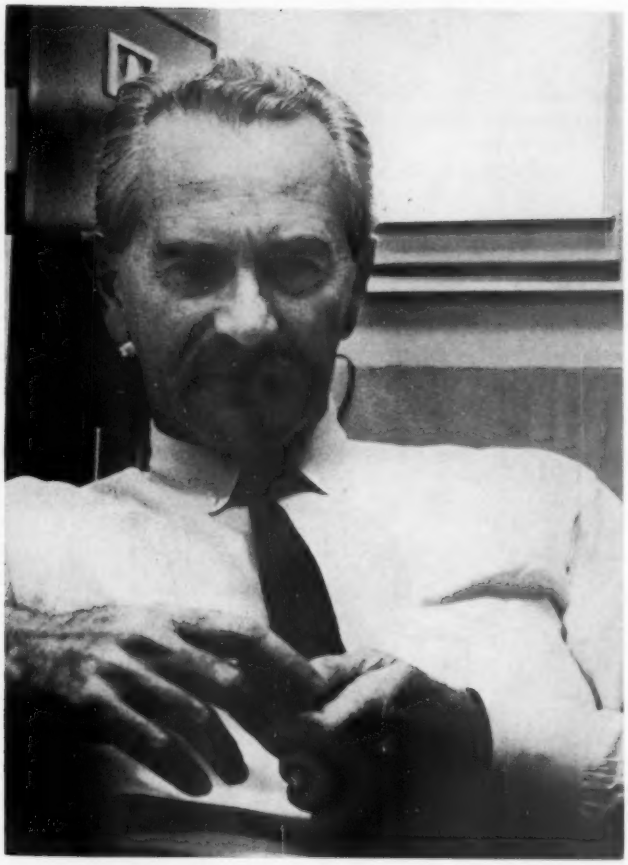
Q. What is the best supervision advice you ever heard? A. An old textile mill overseer once told me, "Be objective all the time. Don't get emotionally involved. Use common sense . . . find out WHAT's wrong, not WHO's wrong. When something is "bugging" a man, find out why and then put a stop to it. It seems to be a pretty basic truism that the higher up a man goes, the more objective he gets. Top management people usually realize that humans make mistakes . . . but they know where to draw the fine line between the amount of error a man can make and the amount that can be tolerated. The closer you can come to merging them, the better . . ."

Q. How important is communication to the supervisor? A. There is an endless need for complete understanding between the supervisor and the men below him. It is particularly important that the standards by which a man is to be judged be fully clarified. Very often the supervisor takes these things for granted. Most supervisory people can distinguish between what is "nice to know" and what is "necessary to know." Unfortunately they sometimes think the "nice to know" is unimportant. When the man on the job doesn't know "why" he is doing something, the first link in the chain of command is broken. The worker is carrying out his job in a different frame of reference from the supervisor. If you keep your people fully informed all the time, you'll be amazed how much easier your job is."

Q. Is supervision training necessary or do these things come naturally. A. It's not only necessary, it's absolutely necessary. There are two crucial periods in which the supervision chain really needs special training. The first is when a man jumps from labor to management. This is a terrific jump . . . the man must be prepared for it. The second is when he moves from specialized management to general management. He must then be trained to think as a generalist instead of a specialist. This is not an easy transition to make. If careful preparation is not made management is likely to find itself with a Dr. Jekyl—Mr. Hyde on its hands.

Q. How do you handle the problem of the young college graduate moving along faster than the old-timer, the journeyman papermaker? A. This is a major problem in this age of automation and instrumentation. These require the skills of highly trained men—most of them young, in their early twenties. The young fellows must be indoctrinated to realize that there is still a lot of art involved in making paper. He must have humility and learn as much from the experience of the older worker as possible. We may be living in the instrument age but all young fellows should know some of the art connected with making paper . . . and appreciate it.

Q. What is the big danger in automation? A. The biggest danger of all in automation is ennui. The man on the job has an important job, but it is not challenging enough. He



DR. GLENN GILMAN, GEORGIA TECH's top man in the field of industrial human relations, hails from "paper country"—Stephens Point, Wisconsin. His uncle was a beater room foreman. After a stint at teaching high school, Dr. Gilman served in the Marine Corps, then received his master's degree in Industrial Management, went on to get his doctorate in industrial relations and social psychology at the University of Chicago. After five years as coordinator for professional education for Lockheed he returned to his first love, teaching. He has published a book on human relations in the textile industry and is the author of Pay Study #12, written for the National Planning Association. It is a study of labor relations in a Southern steel mill.

becomes bored and either moves on to something else or becomes inefficient in his job. The supervisor must create "job interest" among his men. They must realize that they aren't just "meter watchers" or moderators. One important step here is to give every man a total picture of what's going on. Make him realize he is now a part of a technical operation and how it operates. Make him feel his own importance to the whole operation, his part on the team. Never forget that the great danger in quality control is that we are demanding that our men be more and more interested in jobs that are less and less interesting. You must constantly keep their interests hot. . .

Q. What do you think of the case method for teaching and "refreshing" supervision? A. There are two big problems in the case study method. The first is that it is liable to become just what you try to avoid in supervision . . . a big bull session. Everybody has his own idea and nobody gives. Result in chaos. Too much dependence on this kind of thing tends to bypass the important things, equipping the supervisor with the real tools of his trade—insight, understanding, compassion. The other danger is that very often the case itself is too vague for the student to grasp. It isn't in his bailiwick and so it becomes virtually useless. To be really effective the case in point must be very closely related to the everyday problems the supervisor or supervisor trainee faces. Otherwise it is a waste of time and money. It is a good method, mind you, but not the only one and should be handled with care."

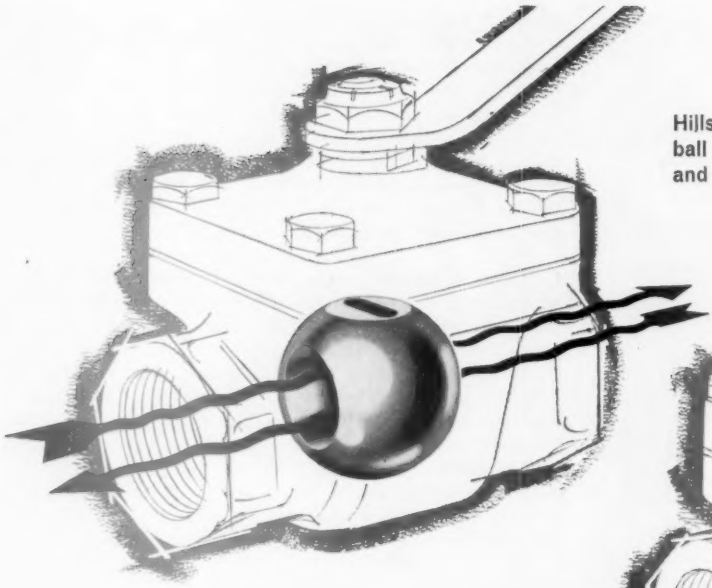
Q. What about regionalism, can it be a problem? A. One of the most serious. If a company is big . . . I mean with plants in many different parts of the country and there is considerable transferring . . . this regional business poses a real problem, both real and ethnic. The relationship between a supervisor and his men is far different, for instance, in the North than in the South. In the North, the worker is more-or-less apathetic toward the supervisor. This is not a criticism, it is just the result of regional peculiarities. In the South, the situation is likely to be reversed. The Southern worker enjoys a closer, more personal relationship with his boss. Not condescending, but more shoulder-to-shoulder. He takes a lot longer warming up to strangers but once warmed, he develops a closer relationship. (Editor's note: This is probably truer in the textile than in the paper industry where labor relations are generally warmer.)

In the West and Midwest these relationships are a little different; each has its own peculiarities. Now, when you transfer a superintendent or a manager from one region to the next, you must take great care to train that man, clue him in on the mannerisms of the region. The bone pile is full of management people who went into a strange region without proper briefing and found themselves in trouble. The transition is not impossible to make . . . any man who is capable of supervising is capable of adapting—but he must be forewarned. If not, the result can well be disastrous.

Q. Where does the research and development man with the status of a supervisor fit into the picture? A. Once again there are real dangers in this situation. The research man, by the very nature of his job, is constantly responsible for changes in methods and systems . . . he shakes up the glass and often it foams over. This can create resentments. Here it is up to the research people to prevent hard feelings. They must make the necessary overtures, take the necessary steps to prevent these problems. Communications enters the picture here. If a system is changed, the men involved must know why. Once they become part of the change, they accept it. But if they are outside looking in, the resentment grows and the result is trouble. Research people generally are in a superior kind of endeavor . . . they must be superior in their ability to handle people.

Q. What are the main dangers the "new" supervisor should be careful of? A. Too frequently when a man is given a position of authority he thinks he should attack problems differently. He begins to overlook the things he knows inherently and tries to develop new ways of doing things and a new approach to dealing with people. He gets into alien ground and turns away from the very characteristics that resulted in his choice for management position in the first place. Treat the men who work for you the way you treat the man next door . . . with the same care and the same diplomacy. You are the boss of course but mix humility with authority.

Q. What are the biggest causes of failure of men on the supervisory level? A. Lack of adequate preparation . . . and poor selection in the first place. ■

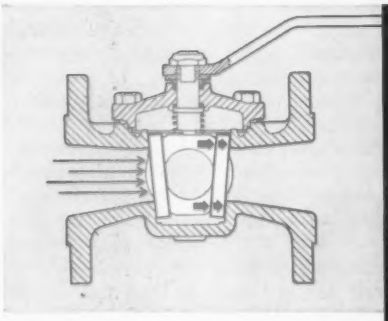


Hills-McCanna McCannaseal top-entry ball valves meet applicable API and ASA standards.

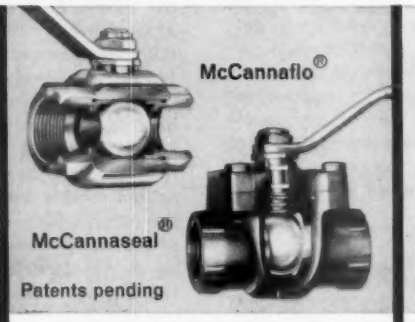
Ultra-simple design. The big orifice in the ball means minimum pressure drop. Double seats with floating ball provide two-way flow. Quick quarter-turn operation closes the valve.

Hills-McCanna Ball Valves

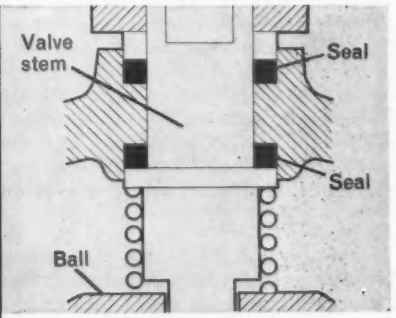
. . . the leaktight valves that end maintenance problems



Self-adjusting seats with leaktight pressure seal. McCannaseal seats move down into a wedge as wear occurs, maintaining tight contact with ball and body. Line pressure tightens the seal.



McCannaseal top-entry for in-line maintenance and McCannaflo for high-pressure lines. ¼" through 8" sizes, manual or motor-operated, screwed, flanged, or socket weld connections.



The stem is leaktight, too! Double seals are under compression by stem nut. Line pressure acts to further tighten and lower back-seated seal—the higher the pressure, the tighter the fit.

A complete line ¼" through 12" sizes for liquids, gases, vacuum . . . including models with high-temperature and fire-safe seats.

Ask for new catalog—32 pages of data on the newest, finest valves for corrosive and noncorrosive services—the valves that insure leaktight shut-off and end your maintenance problems. Write today, or call your Hills-McCanna distributor.

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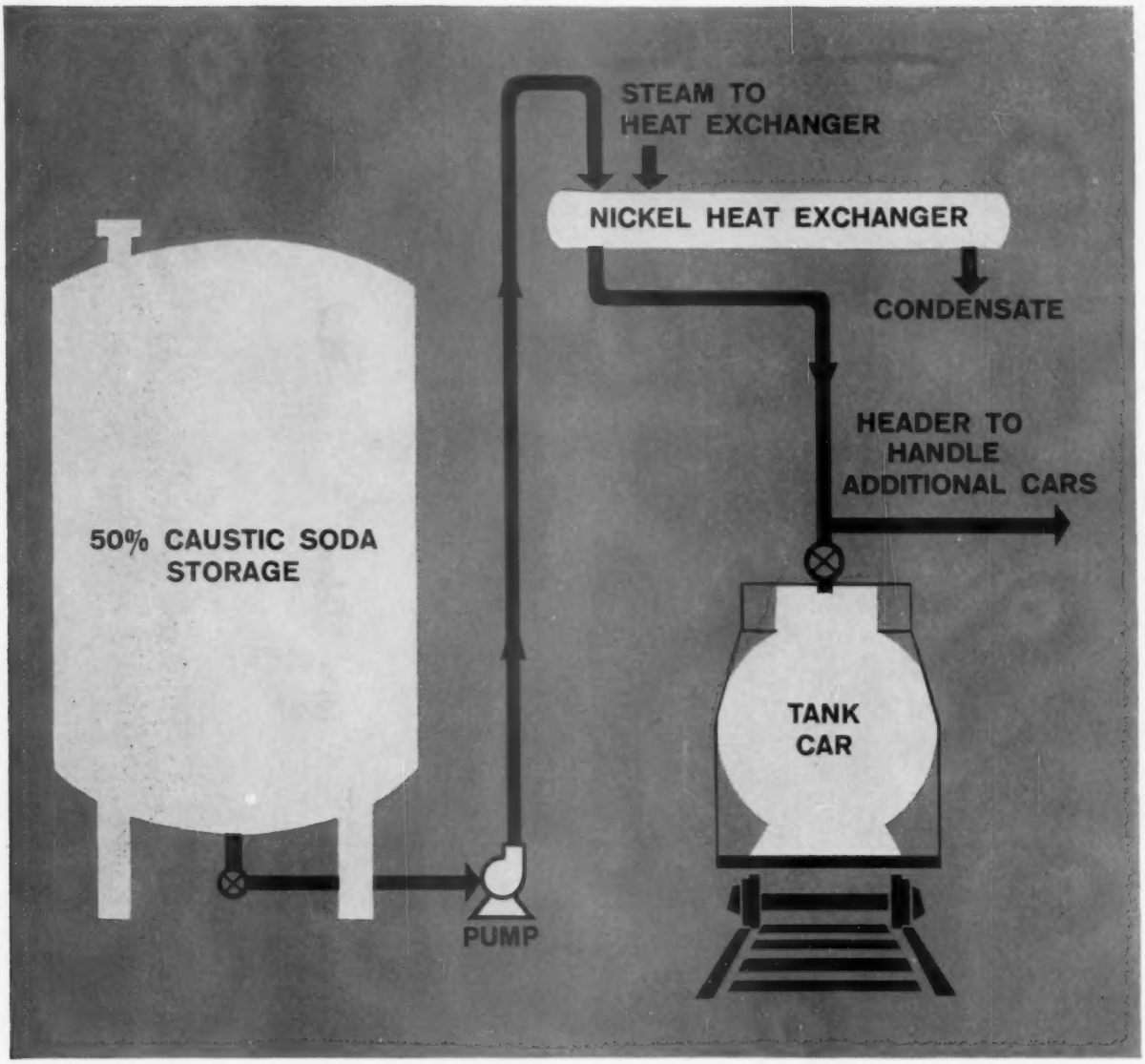

Liquid caustic soda won't freeze even in zero weather

Whatever the weather, Hooker liquid caustic soda flows. This is because Hooker caustic is "heat-treated" to resist cold weather.

The cost of heating a tank car of caustic in your yards to make it flow is a pure waste of money. So is the hidden cost that goes hand in hand with unloading delays.

As shown above, 50% Hooker liquid caustic is pumped from storage through a nickel heat exchanger and into the tank car. The product is heated approximately 25° F. to 30° F. above the loading temperatures applied during the milder seasons.

Since 50% liquid caustic freezes at 55° F., and even the heavily insulated Hooker tank cars lose about 4° F. of heat each day, the extra heat keeps the caustic from solidifying during normal shipping schedules. It's always ready to unload easily, quickly, and without additional expense.

Hot loading of caustic soda is another practical application of Hooker technical service. Data sheets on caustic soda and our caustic soda engineering and handling guide will be sent to you gladly on request.

HOOKER CHEMICAL CORPORATION

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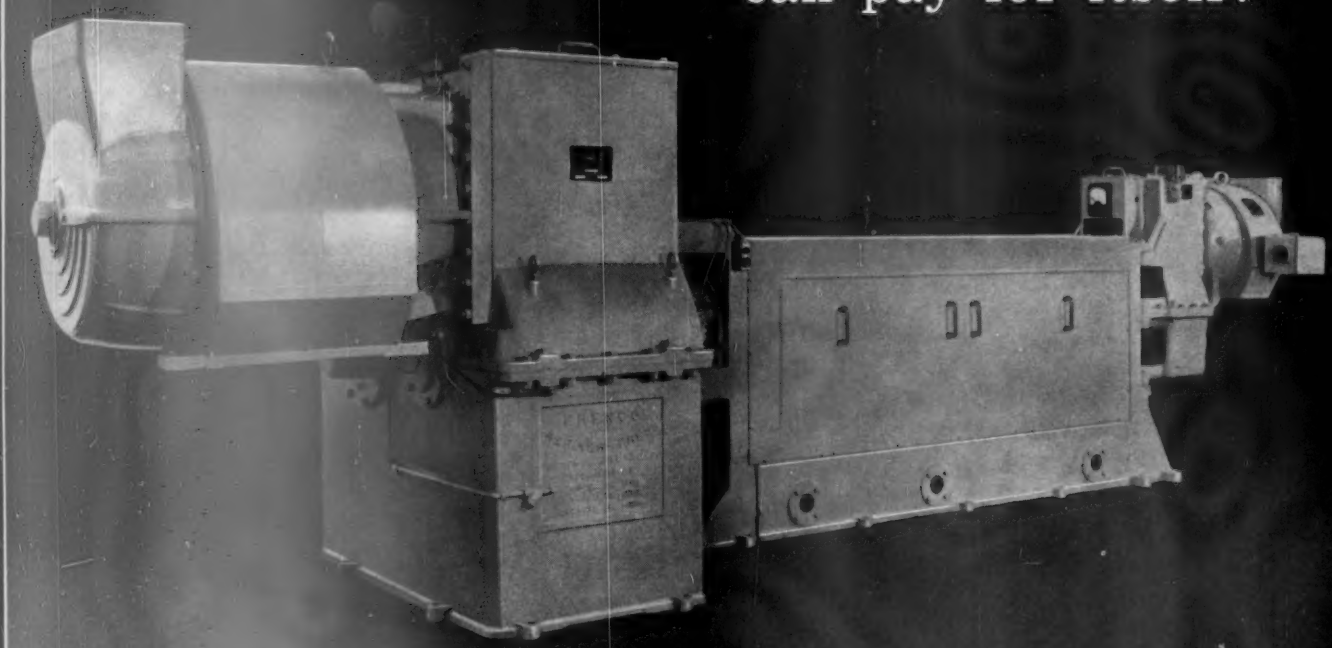
HOOKER CHEMICALS PLASTICS

Sales offices: Buffalo, Chicago, Detroit, Los Angeles, New York, Niagara Falls, Philadelphia, Tacoma, Worcester, Mass. *In Canada:* Hooker Chemicals Limited, North Vancouver, B.C.

PROFIT STORY:

New FRENCH press can pay for itself!



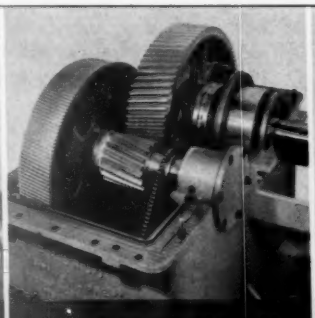
Economical 2-stage continuous screw press uses less power, achieves greater chemical recovery and increases machine production

You use less power, because *one* French 2-stage press attains the same washing efficiency as two single stage presses arranged in series, and requires substantially less power. The French 77" barrel, with water injected midway, delivers up to 90% chemical recovery in a single pass. Added benefits are a thoroughly fiberized high quality pulp that usually requires less total refining power and often makes possible increased paper machine production. You buy *one* French 2-stage press instead of two small single stage presses for a substantial capital investment saving. Also 50% less floor space is required. Additional savings are realized because the French press is designed and built for years of trouble-free service. To discover why the new French 2-stage screw press can pay for itself, write for free Bulletin 100 entitled, "How the French 2-stage press cuts costs — increases production" to Dept. A-3.

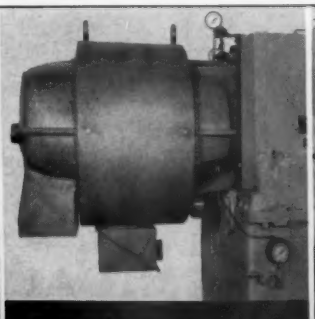
FRENCH OIL MILL MACHINERY CO.
PIQUA / OHIO

Designers and builders of machines for the Process Industries

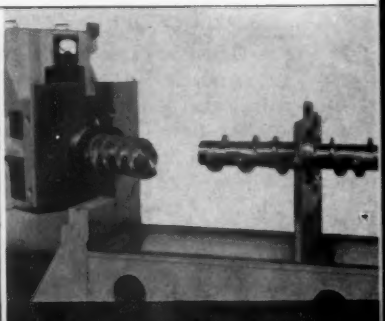
Main drain cage hinged for easy access. Cage can be furnished with inserts into which all wearing parts are assembled for quick removal and replacement.



Main drive gears have file hard surface hardened to full depth. Anti-friction roller bearings. Self-circulating lubrication.



Adjustable motor mount (pat.) enables operator to change press speed quickly by loosening motor support clamps, then backing up and raising motor by jack-screw.



Feed worm unit hinged to permit easy separation of feed worm from main shaft. Permits easy removal of wearing segments.

Uniformity

Uniformity

The uniformly good **PERFORMANCE** you want is built into your Albany felts . . . and it doesn't just happen.

Felts that produce more and last longer are the result of painstaking care in field engineering, design and manufacture and an unending application of experience and testing. . . .

A vital first step in the creation of productive and durable felts is taken when Albany Felt Sales and Service Engineers thoroughly familiarize themselves with your machines, production techniques and felt performance records.

Your requirements are then literally built into each Albany felt you order. Every possible scientific and human effort is put to work to make your Albany felt exactly to your specifications.

You can plan on performance . . . felt after felt after felt.

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ALBANY, N.Y.

Dedicated to Paper Industry Progress

N. Monmouth, Maine • Hoosick Falls, N. Y. • St. Stephen, S. C.
Cowansville, Quebec • Cuautitlan, Mexico

HOW DOES ALBANY FELT COMPANY ASSURE PAPERMAKERS OF FELT UNIFORMITY?

120 different checks assure *Uniformity*

The Closeness Testing Machine provides one of 120 specific checks made during the manufacturing process of every Albany felt. This mechanical test measures porosity by exerting a back pressure of air on the felt. This proves drainage qualities.

The porosity test takes place after manufacture *but the exacting and numerous details of uniformity and quality control begin way back:* with the selection and approval of the wools, the scouring, the preparing of the blends of wool, or wools and synthetics . . .

Take yarn making, for example. Some roping, which is spun into yarn, must not vary more than *one tenth of an ounce per mile!* Over 500 different varieties of yarn are used by the Albany Felt Company. Each yarn is checked frequently against prescribed specifications for weight, tensile strength and elasticity.

In the fulling process, during which the felt is reduced in size by as much as one half, numerous measurements are made to assure exact width and length.

This type of detailed felt testing continues *right through to your machine.* Check after check after check . . .

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—AND PROFITS—
AT YOUR MILL

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Report from J. A. Auger
Marion, Louisiana...

New D4c increases production 25% —lowers operating costs, too!

This new Cat D4C Tractor works with two older D4s skidding pine logs about ¼ mile to the landing. It pulls bigger loads faster—is 25% more productive than the older units. In addition, it handles all the stacking at the loading site. And it does all this at a lower operating cost!

"Our new D4C pulls more logs than the older D4s," says Don J. Auger, son of the owner. "Its high ground clearance is a big advantage getting over stumps. The new dry-type air cleaner is easier to service. Another feature all my operators like is the new fast forward-reverse lever."

Talk to other owners of D4Cs who have compared production and costs with older machines and you'll hear these eye-opening facts:

1 **The new D4C is 20-30% more productive than older machines in its class.**

2 **It is a money-saving replacement for many older higher HP machines.**

3 **One D4C can often earn more than two lesser machines.**

CATERPILLAR

Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

SWITCH TO A NEW D4C FOR GREATER PROFITS

Perhaps you are relying on an older machine to do a job a new D4C could do better . . . and at less cost. Your Caterpillar Dealer, who knows logging, will lay the facts on the line for you. You may find you can purchase a new D4C and still lower your costs substantially—even if your old unit is paid for. You certainly will find your Caterpillar Dealer most helpful in offering terms that fit your needs. He's as close as your phone—why not call him today?

Caterpillar Tractor Co., General Offices, Peoria, Ill., U.S.A.

New D4c Features for Increased Production at Lower Cost!

New Cat Diesel Engine delivers 25% more lugging ability at the drawbar than former D4 engines.

New forward-reverse lever, exclusive in the D4C class, saves time and effort on "many-shift" operations.

New lifetime lubricated track rollers never need lubrication until rebuilding.

New dry-type air cleaner removes 99.8% of all dirt from intake air even in worst dust conditions—serviced in five minutes.

New hydraulic track adjuster (optional) reduces track adjustment to a few strokes of a grease gun.

New protected steering clutch and final drive case which extends inside the track adds to the machine's strength and rigidity—also minimizes build-up of mud and trash.

High ground clearance—14" (highest in class) speeds operations over rough terrain, through soft spots.

PULPWOOD

Logging By Helicopter

is no longer "blue sky" thinking—here are the facts and figures that show how it might help:

Operate in inaccessible areas; Avoid conventional cost factors; Increase operating efficiency . . .

LOGGER OF THE FUTURE might well be this gigantic S-60 Sikorsky Skycrane, claimed to be world's largest helicopter. Larger machines are now in development stage.

By LOUIS H. BLACKERBY
Western Editor

THE NEWEST "LOGGING MACHINE" being eyed by the pulpwood industry could put the forester and woods manager into areas which at present are either physically or economically out of the question.

It is the helicopter and it is coming closer to reality as a logger each day. Two facts make the "whirlybird" increasingly attractive: They can operate without roads and they can immediately salvage timber which has either reached or passed its prime.

Salvage potentials now warrant consideration in big-timber regions where valuable stands of otherwise inaccessible trees urgently need harvesting. They may be doomed by fire, insects, windthrow or over-maturity.

Most large timber holdings in the Far West, private and government, include valuable stands which should, from economic and forest management considerations, be harvested.

More important than utilization is the possibility of eliminating road building. Logging by air is not a new idea. Its possibilities have been discussed for years, but realization that practical helicopter logging is all but here may come as a surprise.

Until recently, capacities and limitations of helicopters have precluded their serious consideration. Payloads, distances and altitudes of the magnitude needed for economical hauling of logs were not feasible. The development of low weight, high horsepower engines has changed this. Turbine drives now may be the solution for driving what promises to be supersize helicopters suitable for logging. One manufacturer says it is "now using a small General Electric turbine that weighs 270 lbs. and delivers 1,050 hp."

A 5-ton prototype flying crane was launched by Sikorsky Aircraft two years ago. Sikorsky plans a similar unit with 4 turbine engines to carry heavy externally-slung payloads, such as logs, weighing up to 21.5 tons.

Load capacity of a helicopter involves several variables such as fuel, air temperature and flying altitude. Payloads at given altitude and temperature are at a minimum immediately after fueling and increase as fuel supply diminishes. Consequently, helicopter payload capacity varies continuously within a specified range. Helicopter ratings therefore are af-

Direct Operating Cost Estimate For Two Sikorsky Models* (Annual Utilization—1,600 hours)

Helicopter Designation	Approx. Price	Cost Per Hour	Cost Per Round Trip 2 Miles	Cost Per Round Trip 4 Miles	Ton Cost Per Round Trip 2 Miles	Ton Cost Per Round Trip 4 Miles
S-58	$285,000	$129	$5.86	$ 9.21	$3.35	$5.26
S-61	$600,000	$243	$9.92	$14.29	$2.83	$4.08

*Includes all direct operating costs such as crew, fuel and lubricants, hull and liability insurance, maintenance labor, service, replacement parts, engine overhaul, and depreciation for aircraft and spares. Calculation based on per-trip load of 3,500 lbs. for S-58 and 7,000 lbs. for S-61 in converting round-trip cost to ton cost. Both models, reports Sikorsky Aircraft, "can lift considerably more weight, but altitude, temperature, and the weight of logs vary such that it is more economical and efficient to plan for production at weight less than the maximum."

fected by gross weight, weight empty, useful load (fuel, payload, average payload).

Because of these changing variables, "averages," such as average payload and strips per revenue hour, are an index of work performance.

Capacity of today's helicopters even large ones, is small compared with conventional logging equipment. Their advantages in logging are speed and the elimination of significant woods costs associated with other harvesting methods.

The Vertol Div. of Boeing Aircraft rates the delivery capacity of its 107 twin-turbine helicopter at 59.5 tons of logs per revenue hour on a 2.5 mile haul. Vertol cites these other "mission" factors: Mission gross weight 18,120 lbs.; working altitude 2,000 ft.; average log-weight, 4.33 tons; 13.75 flights per revenue hour; $3.75 direct helicopter cost per delivered ton (includes cost for pilot, fuel, oil, depreciation, insurance, engine-airframe maintenance on 2,000 hour per year use).

The logging rate for this 2½ mile stump-to-delivery operation, based on cost performance data and weight-to-volume conversion data published by Institute of Forest Products in Seattle, would be 17.5M/hr. for Douglas fir logs of 42 to 58 in. dia. class, 15.9 M/hr. in the 36 to 40 in. dia. class, 15.5 M/hr. in 31 to 35 in. class, 14.7 M/hr. in 26 to 30 dia., 12.9 M/hr. in 21 to 25 dia., 9.3 M/hr. in 14 to 20 in. dia. class.

Cited direct helicopter costs of $3.75/ton delivered represents a per thousand cost in these respective diameter classes as follows: $12.53, $14.48, $15.17, $17.29, $23.98. As in all types of logging, the cost computed on a per M basis increases in relation to weight or cubic volume as diameter decreases.

AT STAGING AREA, 'CHOPPER' IS READY to carry long-length logs to woodyard of mill or other economically feasible area where they are needed.

Whether costs are prohibitive or not will be determined by specific timber and site conditions. Whether or not the stand can be reached by conventional means, whether it has already been equipped with roads, are important factors in evaluating costs values.

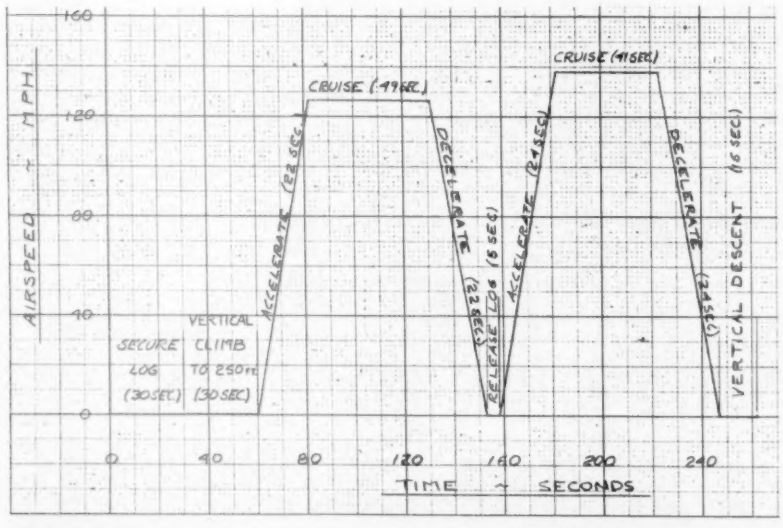
Let's presume the Vertol 107 is to be used for hauling logs from stump to a reload area at the end of a main-line truck road in the woods. Assume no secondary roads have been built and the helicopter will be used within a 2½ mile radius of this landing.

By logging the 19.6 sq. mile area by helicopter, construction of 75 to 115 miles of secondary roads, otherwise necessary, would be eliminated. Logging in the Douglas fir region normally requires 4 to 6 miles of secondary road per section (1 sq. mi.). These truck logging roads, built with sight-to-sight turnouts, 24 to 30 ft. right of way, rock-surfaced 16-ft. width, range in cost from $5,000 to $50,000/mile.

A normal range for secondary roads built and owned by industry is about $10,000 to $15,000/mile. This 19.6 sq. mile forest area would then cost from $750,000 to $1,150,000 at the $10,000/mile rate and from $1,125,000 to $1,625,000 at the $15,000/mile rate.

Assuming this 19-section stand consists of mixed species (hemlock, spruce and Douglas fir), like most remaining "unroaded" timber stands in the Pacific Northwest, the volume could be realistically estimated at 50 M bd. ft./acre. On this basis the volume on this 12,544 acre tract would total 627,200 M ft. Pro-rating these costs of secondary roads on 100% volume basis yields a rate ranging from $1.20 to $2.59 per M ft. of logs.

More roads are needed where exceptionally rough terrain is involved. Some firms doing their own



COMPONENT STEPS of helicopter logging cycle graphically depicted for Vertol 107 II operating on 2.5 mi. transport; 4 min. 22 sec. for complete cycle.

logging figure an additional 11% of road miles per section in these rougher areas. This not only involves more road building but also costlier construction. Consequently this increases the actual road-building costs for the area by more than 11%.

Road maintenance, which normally amounts to 1/3 to 2/3 as much as road amortization, must also be considered. In addition to direct costs, roads are expensive from a forest protection aspect.

The difference in direct logging costs assumes paramount significance in choosing between operating methods. The Vertol helicopter data pertains to a 2.5 mile haul, the maximum haul distance that would be involved in the hypothetical 19.6 sq. mile operation considered here.

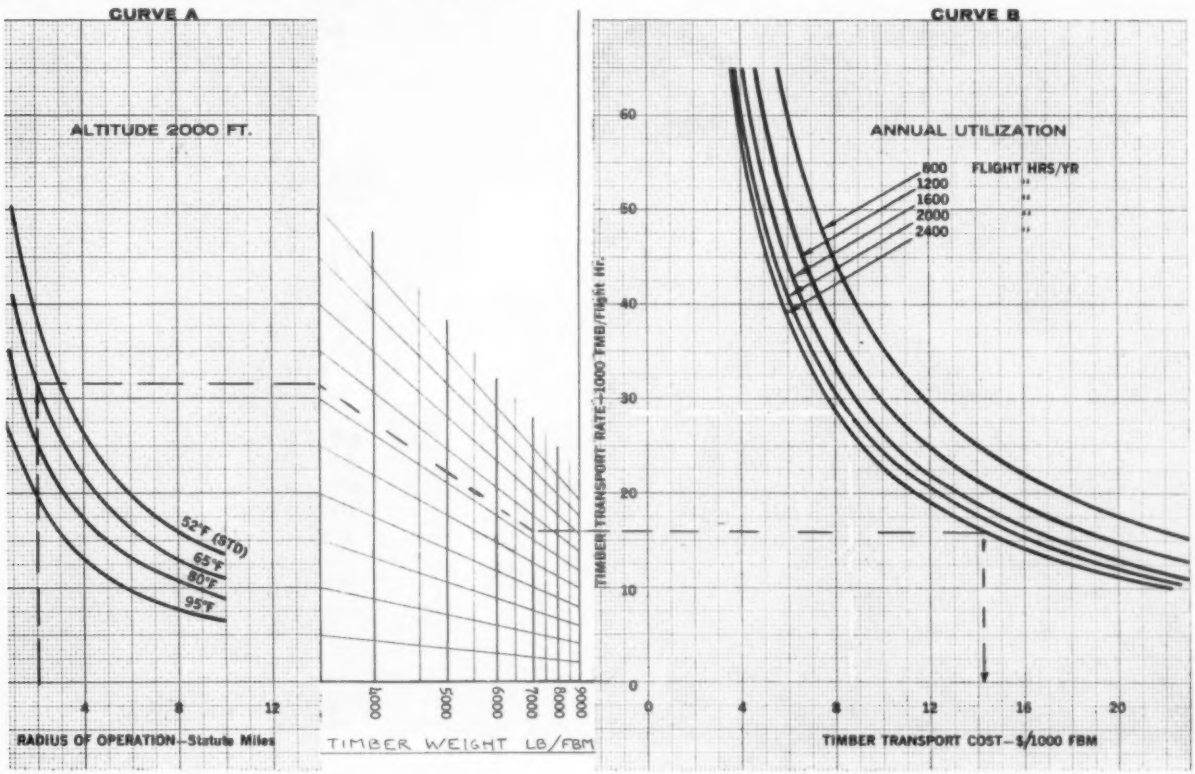
Helicopters may be a natural for additional efficiency in dry sorting and packaging. One woods executive cites the unique opportunity for cost saving by segregating, scaling and prepackaging at the reload area. When logs are ready for loading they would be in the size and shape needed at the mill. He visualized a 5 to 10 acre reload-sorting area for a helicopter logging show such as considered here. A live storage area of this type would provide a good log flow to the mills.

How does the $12.50 to $24./M rate by helicopter compare with conventional logging costs? A 2.5 mile haul by helicopter would require a longer haul by other methods. We may assume that a 2.5/aerial haul would require a 4.5 mile conventional haul. A check of the cost records of a West Coast company shows $16.25/M for logging on a 4½ mile haul. Included (round figures): yarding $6, loading $2, hauling $3.25, road maintenance $2, road write-off $3.

Loading costs would be involved for helicopter logs, but might not be included in conventionally hauled logs. Loading costs would be included if logs were dumped at the sorting-reloading landing. Although loading costs could be omitted from conventional logging costs, if the logs remained on the trucks, higher handling costs for rafting, sorting, etc., would probably be involved and allowance should be made in these comparisons.

Is helicopter logging practical? Says one operator, "We've harvested areas where it would have been economic even when logging was cheap." ■

These charts show helicopter logging can be economical

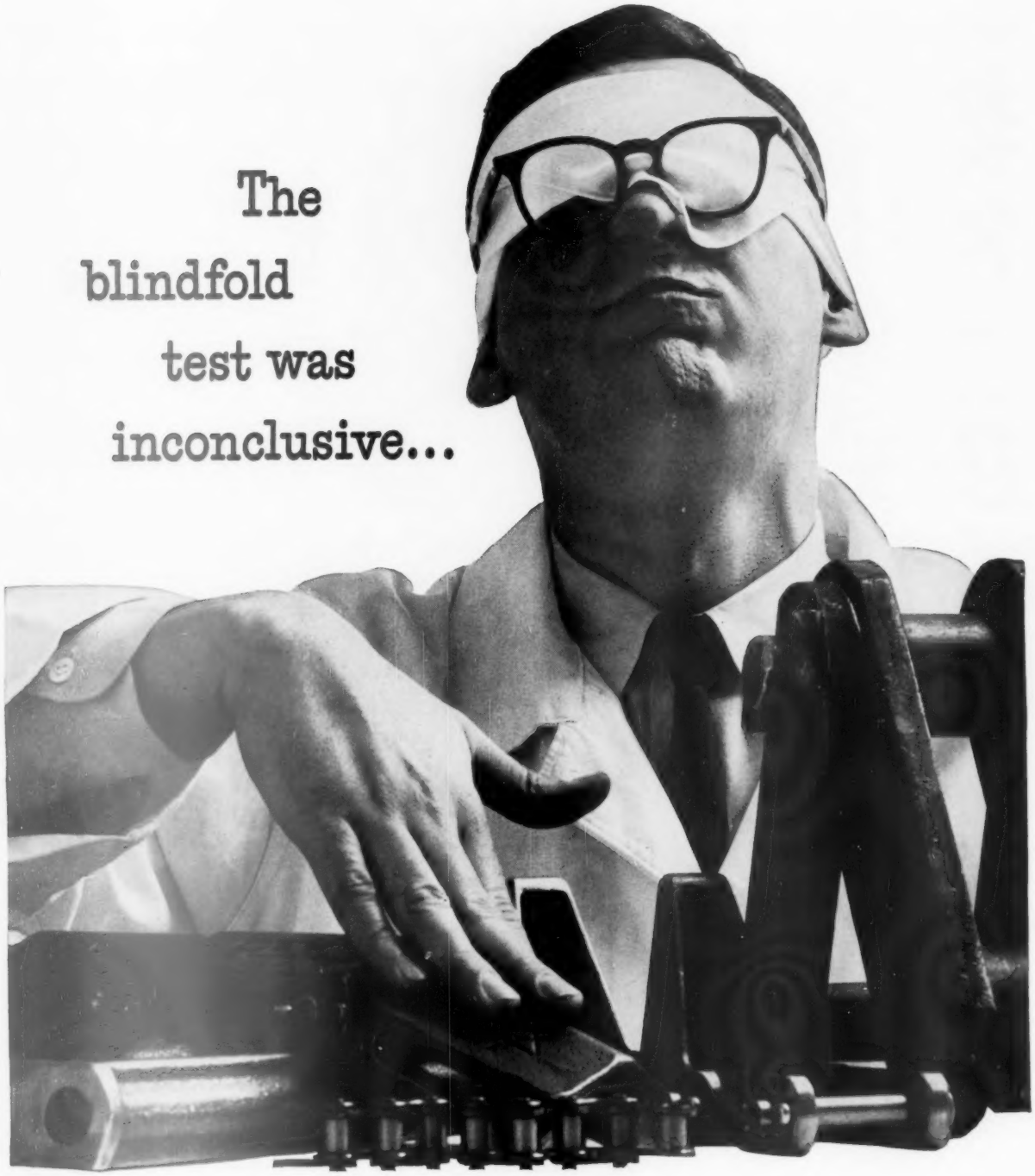


Economics of helicopter logging shown on this chart are for a Boeing-Vertol 107 II, twin-turbine powered, 18,120 lbs. gross weight. Enter curve A at operating radius and temperature. Follow ordinate slope for appropriate timber weight (lbs./M bd. ft.) to get transport rate. Enter curve B with annual machine use. Read transport cost at bottom, $14.25 in example shown.

Curve A is for operations at 2,000 ft. altitude. Example is for 2 mile site-to-pond haul, 65° temperature, timber weighing 7,000 lbs./M bd. ft. and aircraft use at 2,000 hrs./year. Helicopter efficiency increases at reduced temperatures and altitudes. At sea level and 59° temperature, the same logs could be hauled 3.4 miles at costs shown here for 2 miles. Logging cycle includes hovering pickup of log, vertical climb and forward flight to unloading point, log drop and return to site.

Assumptions: stripped helicopter weight of 8,700 lbs., one pilot, basic radio and 230 lbs. fuel reserve. A 50 min. flight time and 10 mins. refueling and ground checks per working hour. Gross weight is based on maintaining 500 fpm vertical climb at maximum continuous power. Fleet of helicopters costing approximately $598,000 each, allowance of $150,000 for spares and optional equipment, depreciation included on 7 year amortization with 15% residual value. Log haul costs include all direct helicopter costs.

The blindfold test was inconclusive...



Can you *feel* a "difference" in chains? In fact, can you *see* a difference? The only test that proves a difference is the *user test.*

Any user will tell you that Rex Chains, from log haul to finished lumber conveyor, will give you more years of *dependable service.* All we have to offer is unmatched quality. Ask your Rex Distributor or District Sales Engineer for the Rex Quality Story. CHAIN Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wis. In Canada: Rex Chainbelt (Canada) Ltd., Toronto and Montreal.

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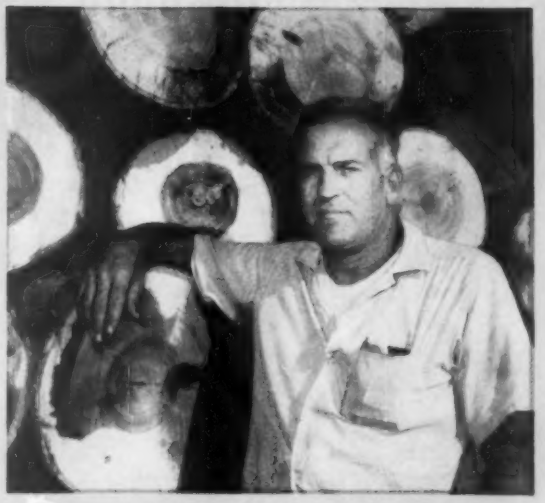
REX IS BEST . . . IN THE USER TEST

"We haven't found a place where the 1010 won't go"

A new 40 h.p. John Deere "1010" makes mountain logging pay for Russell A. Stevens of Arrington, Virginia. "We haven't found a place on these steep Virginia mountains where the 1010 won't go," he reports. "And I wouldn't be without the direction reverser."

Hydraulically operated from the instrument panel, the new John Deere direction reverser features two heavy-duty wet clutch packs, also used for changing gear speeds. This development, together with improvements such as new 4-cylinder power, 4-bolt track pads, high-clearance fenders, and advances in blade control, help to insure high productivity in almost every kind of logging condition.



R. A. Stevens of Arrington, Virginia, in the logging and sawmill business for ten years, now operates on a 700-acre Appalachian tract.

CREDIT PLAN AIDS MODERNIZATION

Many loggers have used the convenient John Deere Credit Plan to increase their spread or bring it up to date. Consult your John Deere dealer through the yellow pages for more information or write today.

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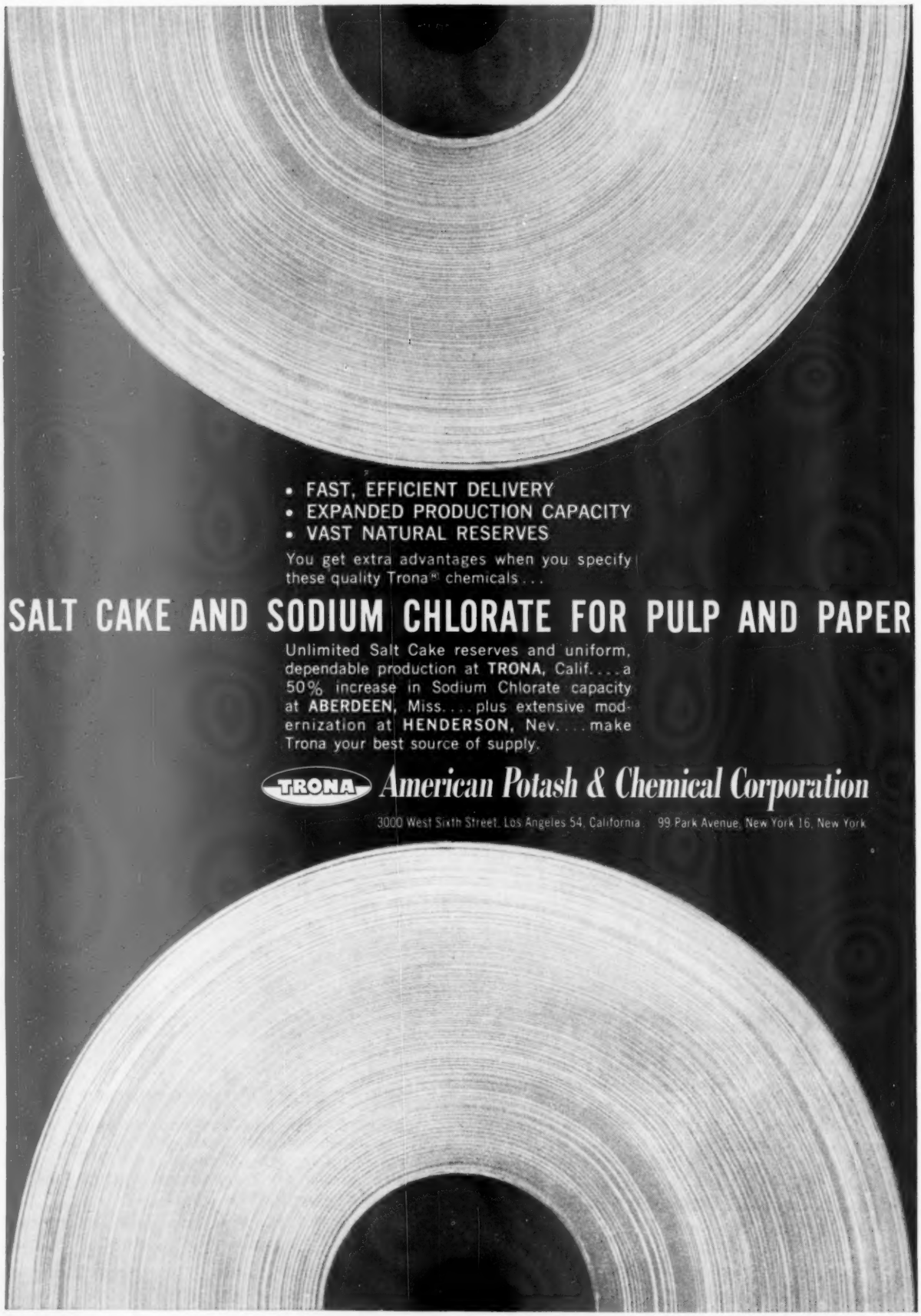
JOHN DEERE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• VAST NATURAL RESERVES
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SALT CAKE AND SODIUM CHLORATE FOR PULP AND PAPER
Unlimited Salt Cake reserves and uniform, dependable production at TRONA, Calif. . . . a 50% increase in Sodium Chlorate capacity at ABERDEEN, Miss. . . . plus extensive modernization at HENDERSON, Nev. . . . make Trona your best source of supply.
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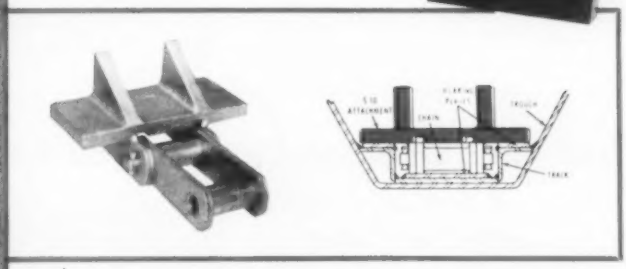
Tough as they come

for pulpwood handling

Time and again, Link-Belt SS-150+ has replaced other chains and produced dramatically longer life on pulpwood conveyors. With its average ultimate strength of 100,000 lbs. — plus hardened pins, bushings and steel sidebars — it resists repeated shock loads. Joint bearing surfaces resist wear . . . ignore constant subjection to the cutting action of abrasive particles.

Consult new Link-Belt Catalog 1050 for full details. Call for a copy from your Link-Belt office or authorized stock-carrying distributor, listed under CHAINS in the yellow pages of your Phone Directory.



SHOCK ABSORBER. S-10 attachment for SS-150+ chain has broad sliding surfaces that contribute to long wear-life of both track and chain. Impacts are absorbed by track, not chain joint.

LINK-BELT SS-850 STEEL CHAINS are engineered to withstand the tremendous suspended weight of barking drums and keep them turning. Catalog 1050 offers complete information.

LINK-BELT

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LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Warehouses, District Sales Offices and Stock Carrying Distributors in All Principal Cities. Export Office, New York 7; Australia, Marrickville (Sydney); Brazil, Sao Paulo; Canada, Scarboro (Toronto 13); South Africa, Springs. Representatives Throughout the World. 15,074

HOW TO DO IT

Problem: Fireproofing a new building

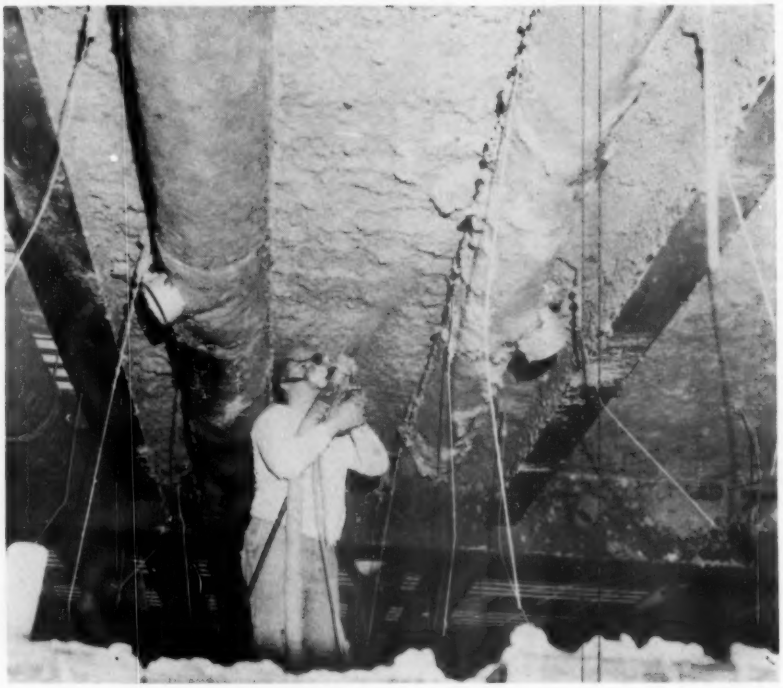
Problem: To permanently fireproof at reasonable installation cost a new multi-million dollar building.

Place: Scott Paper Co.'s new administration building adjacent to Philadelphia's International Airport.

Solution: Contractors sprayed a blanket of 300 tons of asbestos around the steel work of the new structure. They used Sprayed Limpet, a 100% asbestos product supplied by Keasbey & Mattison Co. The insulation is sprayed dry with an inorganic binder from a special gun or hose nozzle. The fiber mixes in the air, with water also sprayed from the gun and hits the steel as a permanently adhering fireproof blanket.

An 11/16 in. thick coating was applied to the undersides of the channeled and cellular steel flooring base throughout. A 1½ in. thick coating was applied to the beams.

The sound-insulating properties were especially needed to avoid noise disturbance from the jet traffic at the airport.



Problem: Overcoming valve corrosion

Problem: How to specify proper valve and piping material for use in corrosive applications in pulp and paper mills

Place: Alloy Steel Products Co., Linden, N.J.

Solution: A special test rod has been developed which can be mounted in actual processing lines. Samples of many different alloys can be attached to the rod and their relative resistance to operating conditions can be studied. Test rods are installed and exposed to the solution for a minimum of 60 days, or longer. The rod assembly is then removed and shipped to Aloyco for evaluation.

A supporting ring at one end conforms to ASA standard dimensions for raised face pipe flanges. The assembly is held in place by bolting the ring, with a gasket on either side, between the mating flange faces. The rod produces only a minor pressure drop and thus can be tolerated in almost any operating line.

Complete evaluation involves a critical visual inspection. Very often, much can be learned from such an inspection, since the physical pattern of the corrosion products gives information about the type of fluid flow as well as type of corrosion.

Corrosion products are carefully removed from each sample. Samples are then weighed to determine the change in weight as a result of exposure. This is then computed to determine corrosion rates in inches per year. Unusual or unexpected corrosion effects on samples are given additional investigation by microstructural examination and by extensive chemical analysis of corroded samples. Aloyco's team of corrosion specialists correlates all this information for a final recommendation.

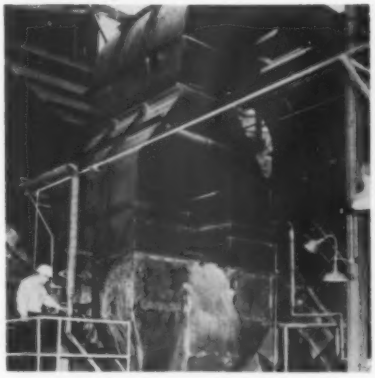
Problem: Handling draft loss in venturi scrubber system

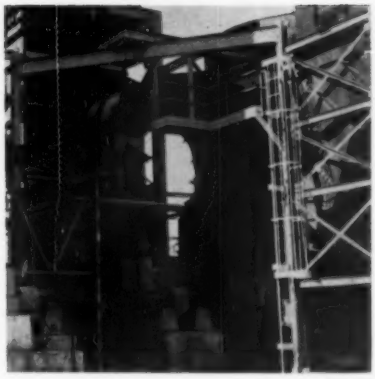
Problem: How to meet extreme volume requirements in a 550 ton recovery boiler unit.

Place: Buckeye Cellulose Corp.'s pulp mill at Foley, Fla.

Solution: A turbine driven two-stage tandem coupled induced draft fan is used. Built by American-Standard Industrial Div., the unit has a maximum rating of 644,000 lbs. of flue gas/hour at 200°F and 44.4 in. static pressure. The unusually powerful system is necessitated by a 38 in. draft loss across the venturi scrubber system, which is part of the recovery boiler. The fans operate at 835 rpm and are driven by a 2613 hp steam turbine.

The chemical recovery boiler is a Babcock & Wilcox unit which provides steam for plant expansion completed in 1960. The venturi evaporator-scrubber is a special feature of the boiler and takes the place of cascade evaporators and an electrostatic precipitator used in the original boiler at Foley. The new design substantially lowered required capital investment and at the same time achieves above 90% chemical recovery efficiency in normal operation.





To attain desired cleaning efficiency, Buckeye engineers designed the system with a 30 to 35 in. scrubber differential and a 3 in. cyclone differential. These factors produce the designed inherent draft loss which is handled by the induced draft fan system.

The fan installation is located outside and consists of two separate fans in series. Two Sirocco wheels are mounted on individual shafts connected by flexible coupling and driven by one turbine. Unusual crossover piping, towering above the wheel location, carries flue gas from the stage 1 wheel to stage 2 wheel. Because of corrosion problems, fan wheels, shafts and inlets are fabricated of corrosion resistant steel; fan housings, boxes and duct connections are fabricated of corten steel plate. ¾ in. thick.

Problem: Grounding appliances and power tools

Problem: To overcome safety hazards which may arise from use of appliances and power tools in a pulp and paper mill.

Place: St. Regis Paper Co.'s Bucksport, Maine mill.

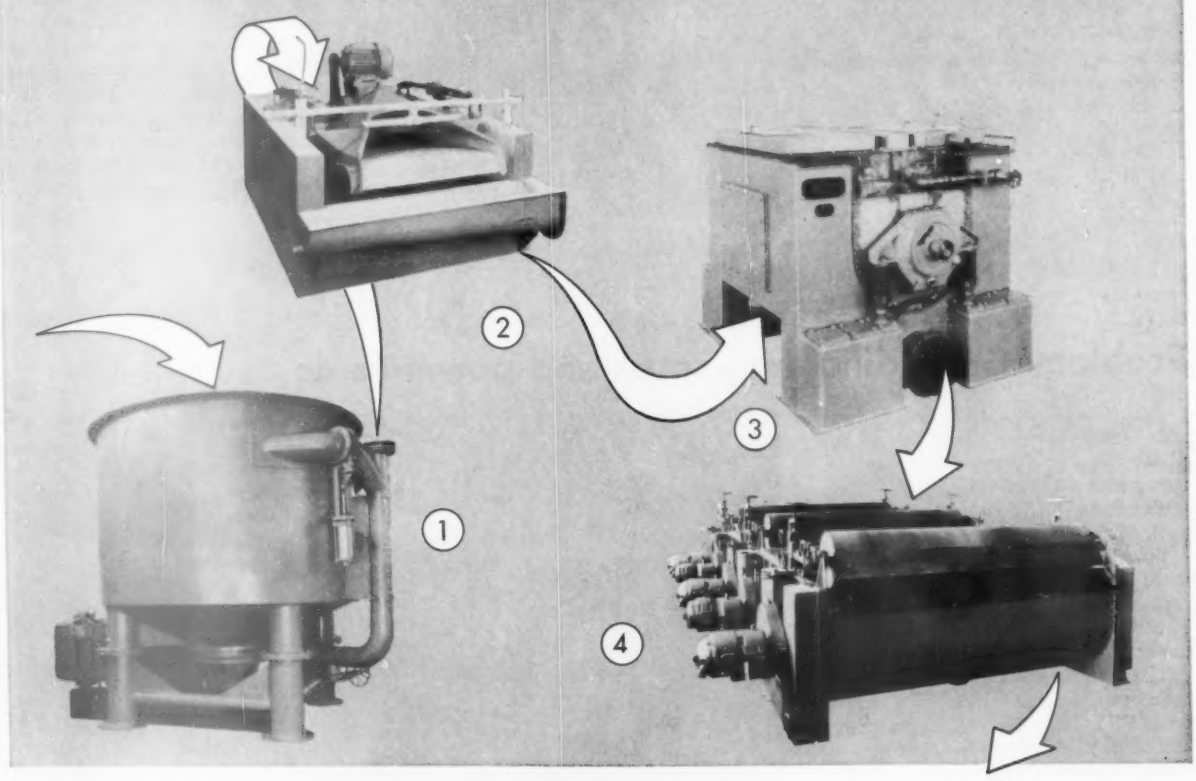
Solution: St. Regis has installed more than 600 new Joy grounded receptacles used on 110v ac circuits. These provide a third circuit to ground the appliances and power tools.

The receptacles installed are of neoprene compound mounted in a waterproof FS condulet box. It has a spring loaded flapper cover which forms a waterproof seal over the receptacle when not in use, but when the flapper is lifted up and a cord plugged in, again a waterproof seal is made to prevent any possible chance of water entering while in use. The three electrodes, vulcanized into the receptacle, as well as the plug, allow a continuous grounded circuit and uninterrupted flow voltage power for the workman on the end of the line. The side outlet receptacle supplied on the extension cords also forms a waterproof seal when a plug-in is made, allowing it to be immersed in water temporarily without leaking.

Source: Lorado Carter, St. Regis Paper Co.

DE-INK
EQUIPMENT

1. IMPCO SOLVO PULPER
2. IMPCO VIBROOKE SCREEN
3. IMPCO LINDBLAD SCREEN
4. IMPCO OPEN CYLINDER WASHERS



Installing a new de-ink system? Looking toward modernizing your existing system? Stripping coating from broke? Need highest quality for good printability?

The finest de-ink grades are being made down by the gentle but complete pulping action of the Solvo. The new Vibrooke Screen working in conjunction with the Lindblad Screen is the best combination of screening action available at any price. For ink, dye, coating and clay removal, Open Cylinder De-ink Washers are considered superior by experienced operators. Impco has been furnishing these dependable units for forty years! Wire cleaning on each cylinder revolution allows highest capacities.

Impco's long experience in de-inking is available to you in your remodeling or new plant planning.

IMPROVED MACHINERY, INC.
NASHUA, NEW HAMPSHIRE

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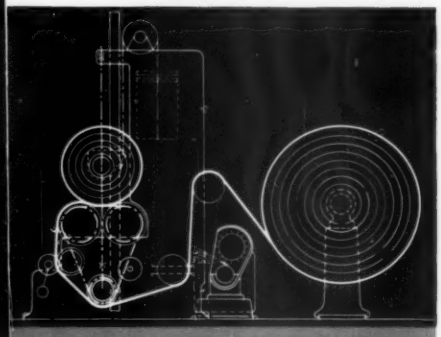
dampening
re-reeling
slitting

all in one operation with the

GOEBEL U VII

MILL-TYPE SLITTER-REWINDER



No wrinkles and piping in rolls—Goebel's exclusive UDW (Universal Differential Winding) system sees to that. Supporting rollers and rewinding shaft are driven *simultaneously* by differential gear. UDW helps produce softly elastic reels, or reels wound to the hardness of stone. And the hardness of winding can be regulated at will . . . altered even as the rewinding is in progress.

Simultaneous dampening and cutting—High-percentage dampening is uniform across the web through Goebel's precision brush dampening device. Because rolls are kept at uniform hardness, soft areas are eliminated . . . moisture won't shift. Perfect calendering.

No fluttering of paper—Goebel's slitting system provides smooth, clean cutting. Bottom cutter shaft is completely encircled by web and filled with bottom cutters and spacers, thus forming a roller. Paper web travels around the shaft . . . means absolute tension, assures freedom from flutter, easy roll separation.

The Goebel mill-type re-reeling and slitting machine is engineered for years of trouble-free service, and it's sold and serviced exclusively by Cottrell.

Technical Highlights

Working width — 63" to 167"

Stock — All types of paper and paperboard

Slitting width — 4" on up

Working speed:

- **Air-dried** — According to class of paper, up to 3,280 ft. per min.
- **Damp-dried** — According to class of paper, up to 1,312 ft. per min.

Machine dimensions:

- **Width** — 181" to 319"
- **Depth** — 130" to 142"
- **Height** — 106" to 126"

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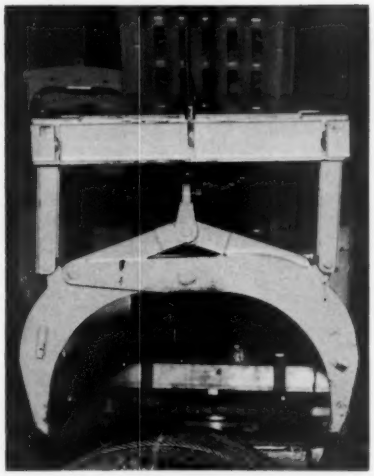
NEW EQUIPMENT

Grapple simplifies log handling

Applications: For use on all types of log loaders built for grapples and on some types not previously adaptable to grapples.

Advantages: The Tongrapple eliminates line-wearing sheaves, utilizes simple mechanical leverage for gripping logs of all sizes, has legs of T-1 steel incorporating both lightness and maximum strength. Weight of 50 in. size approximates 1400 lbs. This log-handling unit can operate as a conventional 2-line set-up or can be used as a unique single-line arrangement incorporating both hoisting and grasping functions. Single-line operation utilizes a "line-shortener," developed as a Tongrapple auxiliary, consisting of a hydraulically positioned sheave controlled by a pushbutton mounted on the hoisting lever. The required operating controls are thus reduced to a single hoisting lever, with pushbutton, and a brake—for efficient, fast loading.



Supplier: **Washington Iron Works, 1500 Sixth Ave. South, Seattle 4, Wash.**

Braided packing

. . . cost nearly halved

Applications: For widespread use on rotary and centrifugal shafts, valve stems and expansion joints and reciprocating rods, plungers and rams.

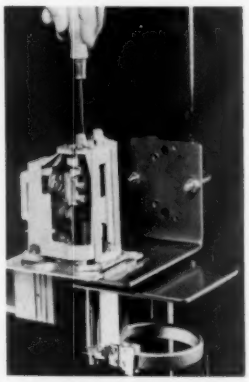
Advantages: Teflon - impregnated braid packing is corrosion-resistant and has a low coefficient of friction that reduces wear during start-up and operation. Designated Garlock Style 5875, the white asbestos material contains more than 30% Teflon by actual weight. It remains unaffected by moderately destructive and corrosive minerals, acids and caustics. Construction is said to result in a stronger, more unified structure independent of any single cover or layer to wear through and fail. Only moderate gland pressure is necessary to ready the packing for immediate operation on installation.

Specifications: Teflon - impregnated Lattice Braid packing has temperature range of from −90°F to 500°F. It is available in ¼- through ⅝-in. sizes in 1/16-in. increments in either spool, reel or ring form.

Supplier: **Garlock Inc., 457 Main St., Palmyra, N.Y.**

Pressure transmitter

. . . first of its kind



Applications: To provide up to 1-10 span suppression to accurately measure small pressure increments.

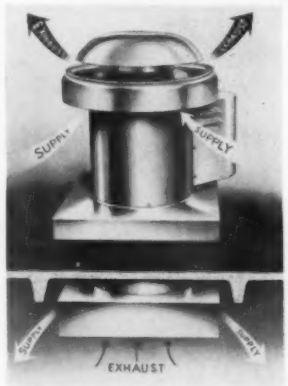
Advantages: New high-suppression, high-accuracy f/b Line unit is first pressure instrument to utilize force produced by a Bourbon tube rather than its motion. Transmitter is capable of expanding a small pressure increment to cover the full signal range for accurate measurement or control. High-accuracy measurements obtained in close control and higher overall system efficiency.

Specifications: Available in five pressure ranges up to 7500 psig. (An example: in measuring up to 1,000 psig, range span can be as small as 60 psig or as large as 600 psig.) All pressure measurements are transmitted over standard SAMA signal range of 3-to-15 or 3-to-27 psig. Transmitted signal is factory-calibrated to be accurate within 0.5% of metered range span. A metered range span of 100 psig (e.g. from 1900 to 2000) will be accurate within 0.5 psig.

Supplier: **Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio, Tel: WH 3-5500.**

Ventilation unit

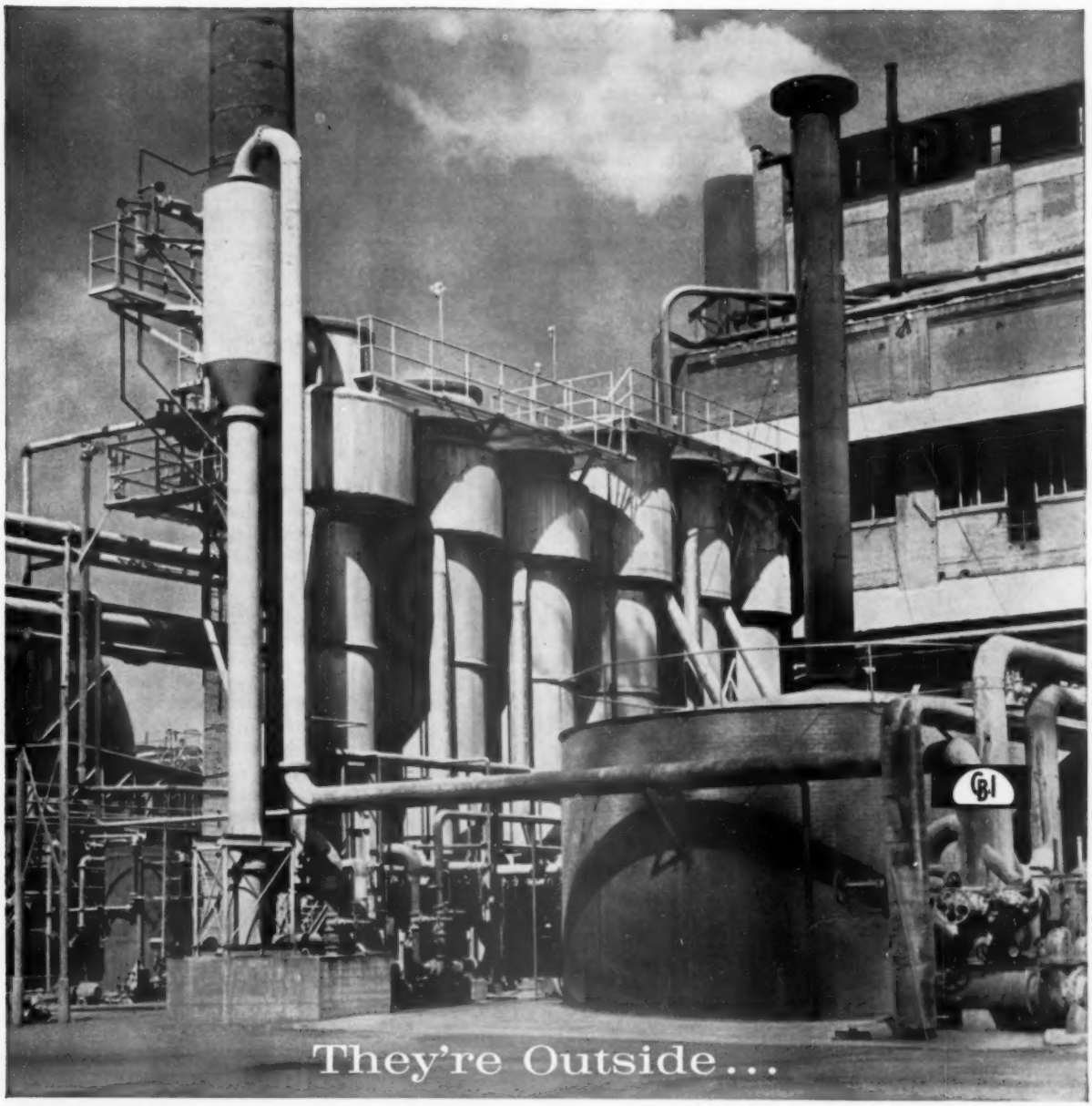
. . . simultaneous supply, exhaust



Applications: For a wide variety of industrial, ventilation needs where previous practice has been to use an exhaust fan operating in conjunction with a supply fan or make-up air unit.

Advantages: Twinalator requires only one opening. Only one motor, one drive and one starter are involved. Cost and installation time are said to be cut in half. Fresh air supply is drawn from above the roof level, where atmosphere is cleaner. By providing proper balance between supply and exhaust, window and door drafts are reduced to minimum. Fresh air supply can be directed by adjustable louvers at the unit or ducted to specific areas. Advantages make unit particularly suited to closed or semi-closed systems.

Specifications: Unit is applicable for temperatures to 200°F and for gases and fumes. Construction is weather-protected throughout. Accessories in-



CB-6110

Require Minimum Space...
Need No External Support...

Installation of CB&I's sextuple effect evaporator at International Paper Company's Georgetown, South Carolina, mill resulted in the following performance:

More than 99.9% of the chemicals processed by this evaporator are recovered. Equally important are the operating economies of this highly-efficient evaporator system. Waste heat is collected at a low cost. The CB&I patented integral preheaters reduce steam requirements and improve the evaporation capacity. The patented entrainment separators for recovering process chemicals are most efficient.

Constructed with stainless steel and Hortonclad® stainless in areas subject to corrosion, and embodying CB&I's high standards of fabrication, this evaporator will operate efficiently for years with minimum maintenance costs.

This evaporator is one of many ways CB&I works with the pulp and paper industry in improving efficiency and increasing production. Chicago Bridge & Iron Company, 332 South Michigan Ave., Chicago 4, Illinois. Offices and subsidiaries throughout the world.

NEW EQUIPMENT . . .

clude: diffuser, tempering coil cartridges, motor disconnect switch and cylindrical supply air filter accessible from roof.
Supplier: **Clarage Fan Co. (Bulletin 552), 1 Clarage Place, Kalamazoo, Mich., Tel: 3-5111.**

Cutter

. . . in streamlined model

Applications: For cutting paper rolls into predetermined sheet sizes.
Advantages: Unit features safer operation (all drive gears enclosed); ease of operation (adjustments conveniently located); easier maintenance (lubrication points quickly accessible), and precision-balanced rotating members to reduce inherent vibrations to below minimum allowable.
Specifications: Handles rolls of up to 100 in. in width.
Supplier: **Hamblet Machine Co., Island St., Lawrence, Mass.**

Ball valves

. . . full-port, bubble-tight

Applications: For flow control.
Advantages: Designed around inside dia. of standard pipe, new line is offered in many materials of construction. Full port in valve's sphere is as free and open as pipe on which the valve fits. Sphere is sealed with dual compressive seats that are filleted for longer wear, and precision engineering results in lower torque. Valve requires no lubrication. Pressure or vacuum can be handled in either direction.
Specifications: Available in sizes of 3 through 6 in., valves are manufactured in both 150- and 300-lb. series. Non-standard flanged valves available as special items. Remote control operators can be supplied.
Supplier: **J. L. Putnam Co. Inc., Biddeford, Maine.**

Check valve

. . . single-piece casting

Applications: For general service in pulp and paper manufacture.
Advantages: Tilting-disc unit (Uni-Tilt) is a "non-slam" valve made of stainless steel and features a single-piece body casting. Elimination of all flanges, says the manufacturer, makes it "one of the lowest priced, lightest and easiest to install check valves available." Since both disc and body are of stainless steel, need for separate seat rings is eliminated. Other features: drop-tight when closed, trouble-free in operation and long life.
Specifications: Disc, an aerodynamic section, is a precision casting, guaranteeing exact shape and smooth surfaces required to achieve remarkably low head loss. Valve, stocked in complete range of pressures and sizes, is available in standardized packages.
Supplier: **Dominion Engineering Co. Ltd., P. O. Box 220, Montreal, Que., Tel: MElrose 7-3711.**

New member of the community — major industry in town

Here at Westminster, Massachusetts, the Decotone Division of the Fitchburg Paper Company will print, coat and sell paper for various purposes including the laminating, photographic, packaging and gift-wrap industries. The brick-and-glass building includes showroom, offices and U-shaped process-flow facilities designed for future expansion.

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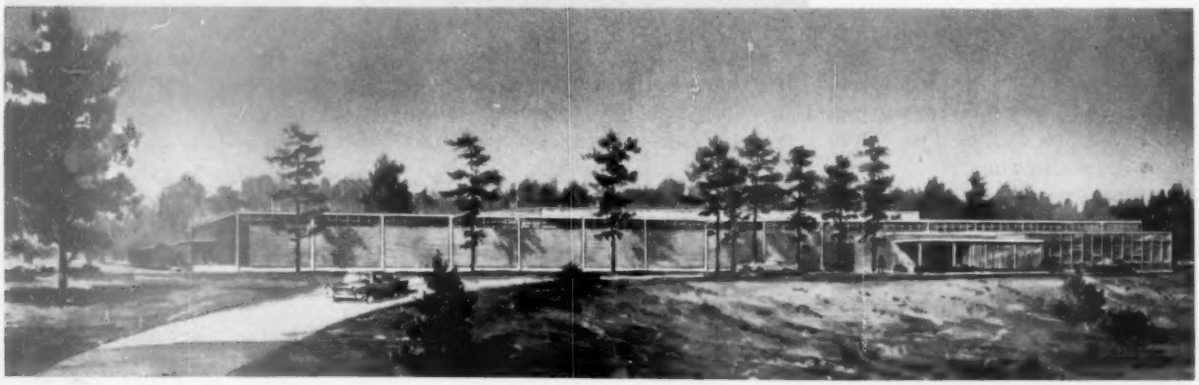
Over a century of industrial plant design experience



Langston Leader

LEADERSHIP BY DESIGN

MAR. 1961 Published for information of paper and board mills by Samuel M. Langston Company, Camden 4, N.J. VOL. 3, NO. 2

Can Be Built For Any Grade Paper or Board

WINDER FOR BETTER QUALITY, LARGER DIAMETER ROLLS

Speedmaster's New Design Assures Better Separation, And Uniform Roll Density

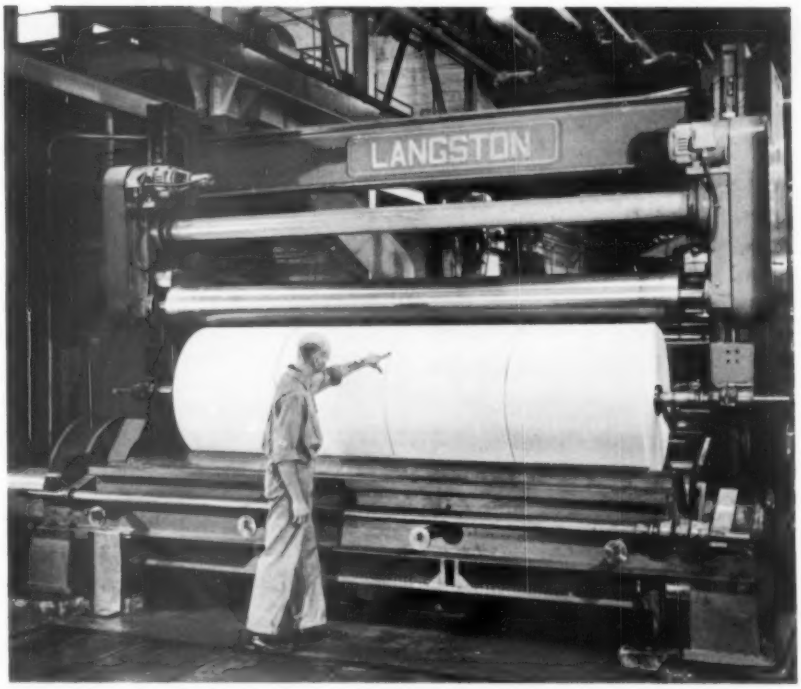
To answer demand at the mills for larger diameter rolls of uniform density, particularly coated grades, Langston has developed a new slitter and winder, the Speedmaster, engineered for larger diameters and incorporating a new design slitter and spreader system on a rotatable cradle.

This system permits location of the slitters closer to the carrier drums than ever before possible and provides more precise control over spreading.

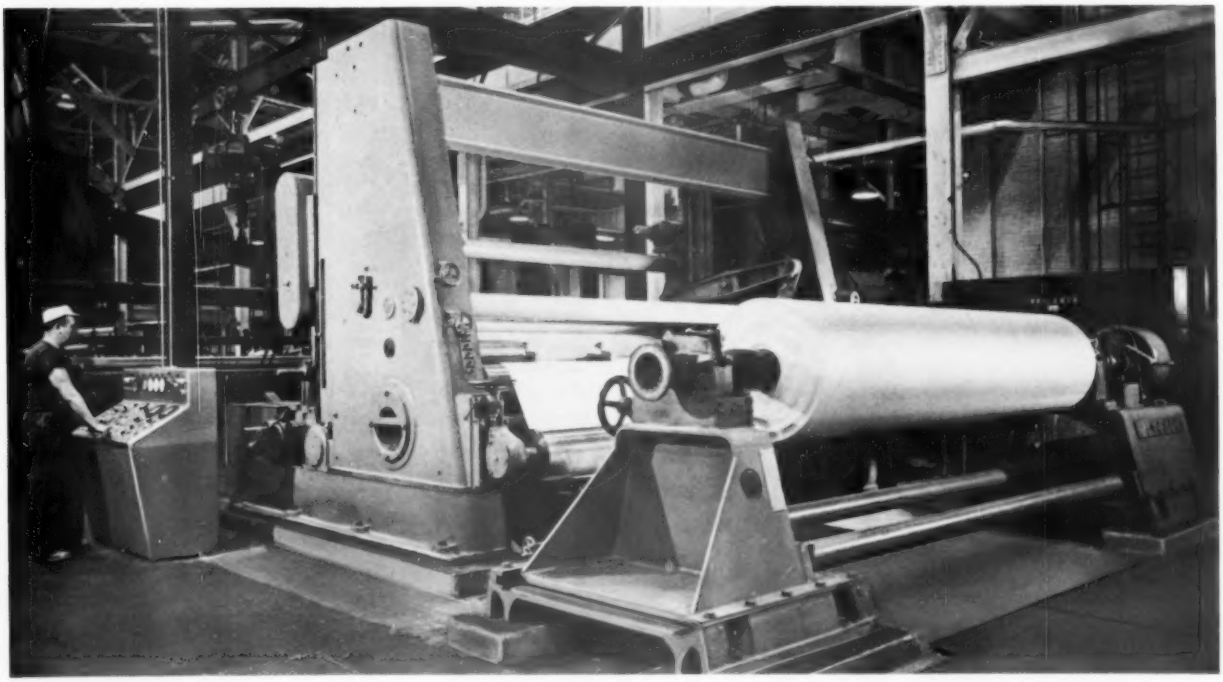
Built to suit a general range of applications from lightest weight tissue to dense printing grades (coated and uncoated) to heavy weight board, the Langston Speedmaster is proving a winder of unusual flexibility.

In producing rolls of larger diameters, the winder achieves uniform rewind density through: *automatic* con-

(Continued on next page)

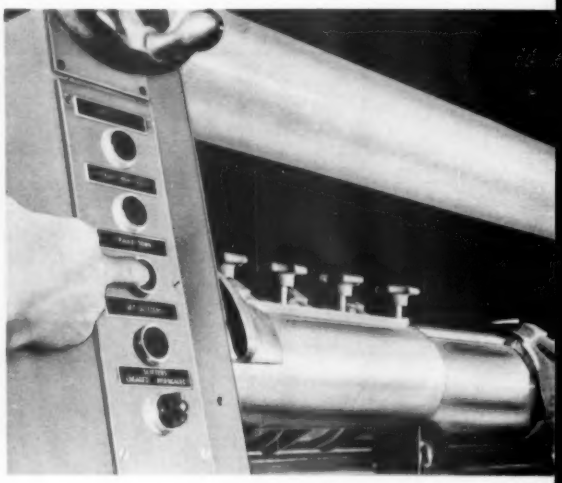


LANGSTON'S NEW SPEEDMASTER, a winder of unusual flexibility



SPEEDMASTER at prominent mill includes Langston backstand with lateral adjustment, oscillation and constant tension braking

. . . easy access for slitter setup



. . . pushbutton adjusts degree of

Assures Better Separation, And Uniform Roll Density

(*Continued from preceding page*)

trol of the draw between the main winding drums; by compensation for the increasing weight of the rewound roll through automatic control of rider roll nip pressure; by lifting on the rewind shaft, if its construction permits; and by automatic web tension control.

High Speed Operation

Available in speeds and in widths to suit the trim of paper machine, super calender or converting applications, the Speedmaster is of rugged construction with box-section side frames and of low silhouette for minimum headroom.

Speedmasters are operating in a number of prominent mills on board and fine papers and in converting operations where they are producing results that show achievement of all the design aims:

- Larger diameter rolls than heretofore possible, particularly on coated papers, to satisfy the demand of the mills' customers for more lineal footage per roll (which means, for example, to printers longer runs and less downtime).
- Precision control of roll density.
- Faster winding to meet increased paper machine speeds.
- Greater roll output to reduce manufacturing costs.
- Assured separation of rolls through push-button control of the degree of spreading required.

The new design Langston Speedmaster is an outgrowth of demand from the mills for a winder that would meet changing conditions in the industry. The mathematics and economics of larger rolls have become an increasingly important mill consideration. Simply put, it means the mills want more lineal footage per roll because their customers want longer runs and less downtime and less slowdown for splices.

For example, a printing grade of 45 lb. to 55 lb. basis weight (c-2-s), when raised 25 percent from 40-inch diameter rolls to 50-inch rolls, gains approximately 55 percent in lineal footage. To the printer desiring more press running time and less waste in slowing down for splices, the large proportional increase in lineal footage becomes a significant economy.

Want Greater Output

At the same time larger diameter rolls mean something more for the mills than added customer satisfaction. They also want greater output to reduce costs, and larger diameter rolls mean less splicing, fewer rolls to handle and less downtime, with consequent savings down the line.

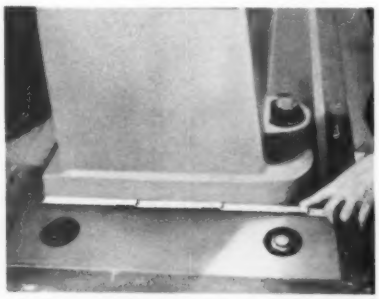
But to turn out larger diameter rolls, the mills needed a winder that would also solve the problem created by the increase in weight of the larger rolls. To offset the tendency of the roll to become increasingly hard with added diameter and weight—with the consequent risk of the bursting of a too tightly wound roll—mills wanted a winder with precision control of roll density and with the ability to compensate for the limited tensile strength of paper.

Finally, paper machines, too, were increasing in speeds. And this meant that a winder combining all the other achievements would have to be built for speed, too.

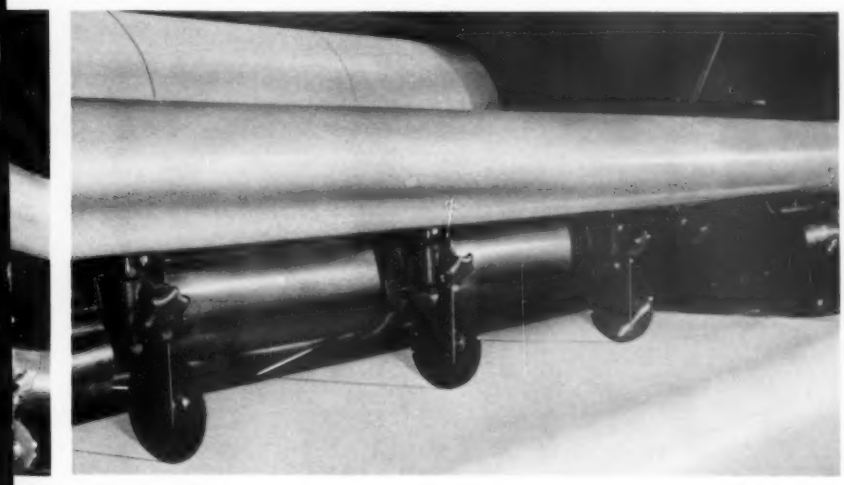
Features That Do Job

All this the Speedmaster accomplishes by a combination of engineering features, whose principal components are large diameter winding drums, automatic torque control, automatic rider roll control, automatic rewind shaft lift, tension control and precision spreading control. Where required (for instance, on coated printing papers) a power driven spreading roll and power driven idlers are furnished to eliminate sheet marking. These features are supported by a number of auxiliary components to ease operation of the winder and its maintenance and to safeguard personnel.

The design of the Speedmaster takes into regard such effects on drum diameters as speed, structural strength, rewind diameter and nip pressure and yet permits construction, depending on the needs of the application, in any of a wide range of drum diameters.



. . . for better rolls, a rugged frame



. . . clean slitting in action

. . . top quality shipping rolls

Torque Control

Among the new winder's features to achieve uniform density of rolls is automatic control of the draw between main winding drums This permits control of the sheet tension in the layers comprising the roll, in this way effecting a high degree of density control.

Depending on the demands of specific applications, paper grades and diameters, Langston can furnish the Speedmaster with various means of draw control between the drums. Involved in the question is the type of drive selected for the winder, either two-motor or single motor, both of which are available. For instance, two-motor drives can be of the controlled type, programmed to compensate *automatically* for the tendency of uncontrolled and increasing roll hardness with increasing weight of the roll.

(The subject of drives is extensive and will be treated fully in a subsequent issue of the Langston Leader. Write to Langston to be sure to get on the mailing list for your copy.)

Rider Roll Control

Another factor helping achieve uniform density is control of rider roll nip pressure. This accurately and *automatically* maintains the correct rider roll force, decreasing this force as a function of roll buildup, thus importantly contributing to the desired uniform roll density. For example, by being able to vary precisely and automatically the amount of weight applied by the rider roll, the operator can pre-select for his run the rider roll weight proven best for certain basis weights, for instance, 2500 pounds for 14-caliper board or 300 pounds for 45 pound bond. The operator can also raise or lower the rider roll by push-button rather than by wheel or through chain drives.

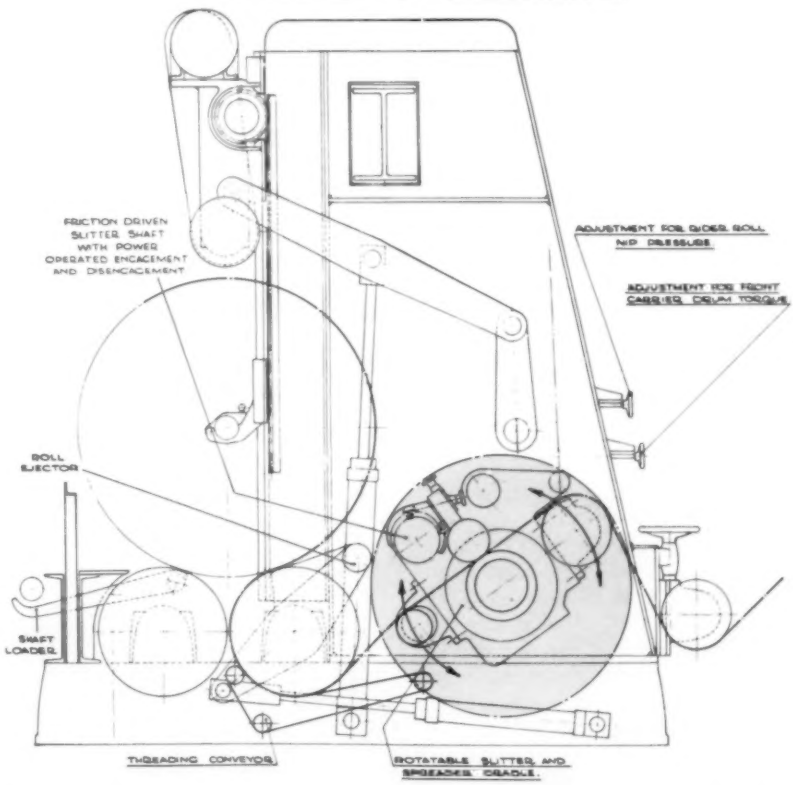
The rider roll is driven by a belt or separate satellite motors electrically interlocked with the main variable voltage drive. By controlling the torque input to the rider roll, additional control of roll density is obtained.

Rewind Shaft Lift

Still another factor contributing to uniform roll density, particularly in production aiming at larger diameter rolls, is the Speedmaster's hydraulic lift of the rewind shaft brackets. By counter-balancing the weight of the

(*Continued on next page*)

CROSS SECTION OF SPEEDMASTER


FRICTION DRIVEN SLITTER SHAFT WITH POWER OPERATED ENGAGEMENT AND DISENGAGEMENT
ADJUSTMENT FOR RIDER ROLL NIP PRESSURE
ADJUSTMENT FOR FRONT CARRIER DRUM TORQUE
ROLL EJECTOR
SHAFT LOADER
THREADING CONVEYOR
ROTATABLE SLITTER AND SPREADER CRADLE

(*Continued from preceding page*)

shaft, this feature eliminates shaft deflection with its resultant whipping of the shaft, when running narrow rolls. By pushbutton, it enables the operator to easily raise and lower the shaft for threadup and startup, and toward the finish of a large roll apply supplemental reduction of nip pressure as desired (where shaft construction permits). However, the mills' customers must be sold on using rewind shafts large enough to take the added strain.

Finally, web tension control, another important factor in producing larger diameter rolls, is engineered to meet the needs of the specific winder application and may be manual or automatic, constant or tapered tension.

(Web tension, like the subject of winder drives, merits special fuller treatment, which also will be provided in a future issue of the Langston Leader.)

New Slitting Concept

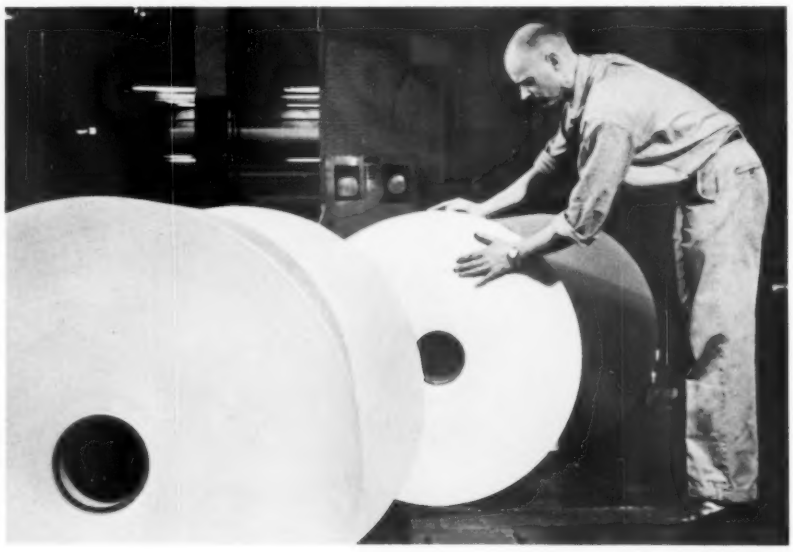
The winder's new slitting and spreading concept mounts slitters and spreader in a cradle which is rotatable 60 degrees. This arrangement permits locating the slitters far closer to the first carrier drum than ever before possible, thus providing a shorter draw of the slit web. At the same time, spreading is incorporated in the carriage so that the slitters and spreader are in close proximity, with resultant positive roll separation. The degree of spreading is attained by pushbutton control.

Another advantage accrues by mounting the slitters in the rotatable carriage. Access is much more convenient. By pushbutton, the operator rotates the carriage to its extreme position, from which both top and bottom slitters can be set up quickly from a standing position on the mill floor. There's no need for the operator to climb up on the machine to make adjustments.

Further, since the rotatable carriage includes the spreading system—either bow-type spreader roll or adjustable bar-type—the operator again by pushbutton can rotate the spreader to increase or decrease the degree of spreading obtained. This makes the Speedmaster conducive to narrow slitting and assures freer separation of rolls.

Precision Slitters

The power-driven slitters are of the new Langston precision design guaranteed to run true within .001". By minimizing variations in web width, these precision slitters produce rolls free of annular rings.



. . . easy separation, good edges and smooth sides

The new individual slitter assembly includes several basic improvements. First, the slitter holder has a wider contact area on the slitter shaft, thus increasing the holder's stability by producing a better column ratio or base-to-height relationship. The hubs of the slitter holders are interlocking to permit narrow slitting. Also, the hub is solid rather than split, thus inherently resisting any force leading to distortion that would normally cause a cocked slitter.

The gripping action is accomplished by a leaf-spring principle. This avoids any hinge effect or distortion from a weak area and holds the slitter true. The leaf-spring locking action makes it unnecessary to use set screws and gibs against the shaft for holding the assembly in position.

Removable for Sharpening

Made with maximum care and accuracy to minimum tolerance, the Langston slitters are also balanced and can be sharpened on the machine or easily removed for sharpening.

The frictionally driven slitters are of the fixed shear-angle type, which minimizes the chance of improper setup or of slitters getting out of line. The frictionally driven slitter holders incorporate a leaf spring to insure proper pressure between slitter blades. The holders are made of aluminum and are laterally adjusted for width of slit by handwheel through a rack and pinion system. They can be engaged or disengaged for threadup by pushbutton through hydraulic action.

Other Speedmaster features include:

- Removable ways for rider roll and rewind shaft carriages for easier maintenance.
- Automatic threading device for ease of threadup.
- Power engagement and disengagement of slitters.
- Rewind shaft bearing housings of the spherical ball-joint type for maximum flexibility in use of rewind shafts and reduction of side movement.
- Anti-friction thrust bearings for the rewind shaft which rotates in a stationary housing to minimize lateral movement and offset.
- Anti-friction bearings throughout the machine, including thrust bearings for all elements in direct contact with the roll of paper.

Options include: automatic shaft loader, roll ejector, shaft strippers, rewind shaft lift and various types of roll lowering equipment.

A control console is provided for safe efficient operation. Various types of nip guards can be provided.

When your aim is increased production and larger diameter straight-sided, uniformly dense rolls, the Langston Speedmaster gives you modern advanced design with new and proven features in winder engineering. No matter what the grade of board or paper, there's a Langston Speedmaster that best fits your needs. Langston sales engineers are always at your service to help you plan your slitter and winder requirements.

These swatches represent two entirely different titanium dioxide paper coatings.

One is an anatase grade, the other is a rutile grade.

CAN YOU TELL WHICH IS WHICH?

ONE IS THE NEW...

These two swatches of TiO_2 pigment have been applied by silk screen so that you can compare them quickly on this printed page. The formulas are nearly identical except that one contains a rutile grade, the other new *LD-C* anatase.

Although you'll achieve superior coating with regular paper mill machinery, the proof is there . . . new Glidden *LD-C* (on the right) has properties comparable to the rutile. The brightness of anatase is combined with the ease of dispersion and low viscosity features of rutile.

New *LD-C* is equally well suited for on and off machine, size press and calender coating. Compatible with all other common paper coating pigments and adhesives.

Being an anatase grade, new *LD-C* is for coating of all nonwaxing, plain and printed paper and board. And *LD-C* is priced as an anatase. Some users are obtaining savings of up to 2¢ per pound.

Higher machine speeds, heavier coating weights and other advantages are inherent in new *LD-C*. To get the full story, or samples, call your Glidden representative or our Baltimore headquarters.

GLIDDEN ZOPAQUE® LD-C

anatase grade TiO_2 especially developed for paper coating

QUALITY Glidden PRODUCTS

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FINEST PIGMENTS FOR INDUSTRY

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MANY GLIDDEN TECHNICAL FACILITIES ARE AT YOUR SERVICE for development or testing work in paper. Write for this new brochure—just off the press—*Paper Research and Development Laboratories.*

If you're a man who takes pride in his work, you're a man who reads his businesspaper carefully. Cover to cover. Advertising as well as editorial pages. Why? Because – as a man who gets a kick out of doing a great job – you know there's no better place to get so many good, practical ideas you can put to work with extra profit to yourself, and your firm, than in . . . your businesspaper.

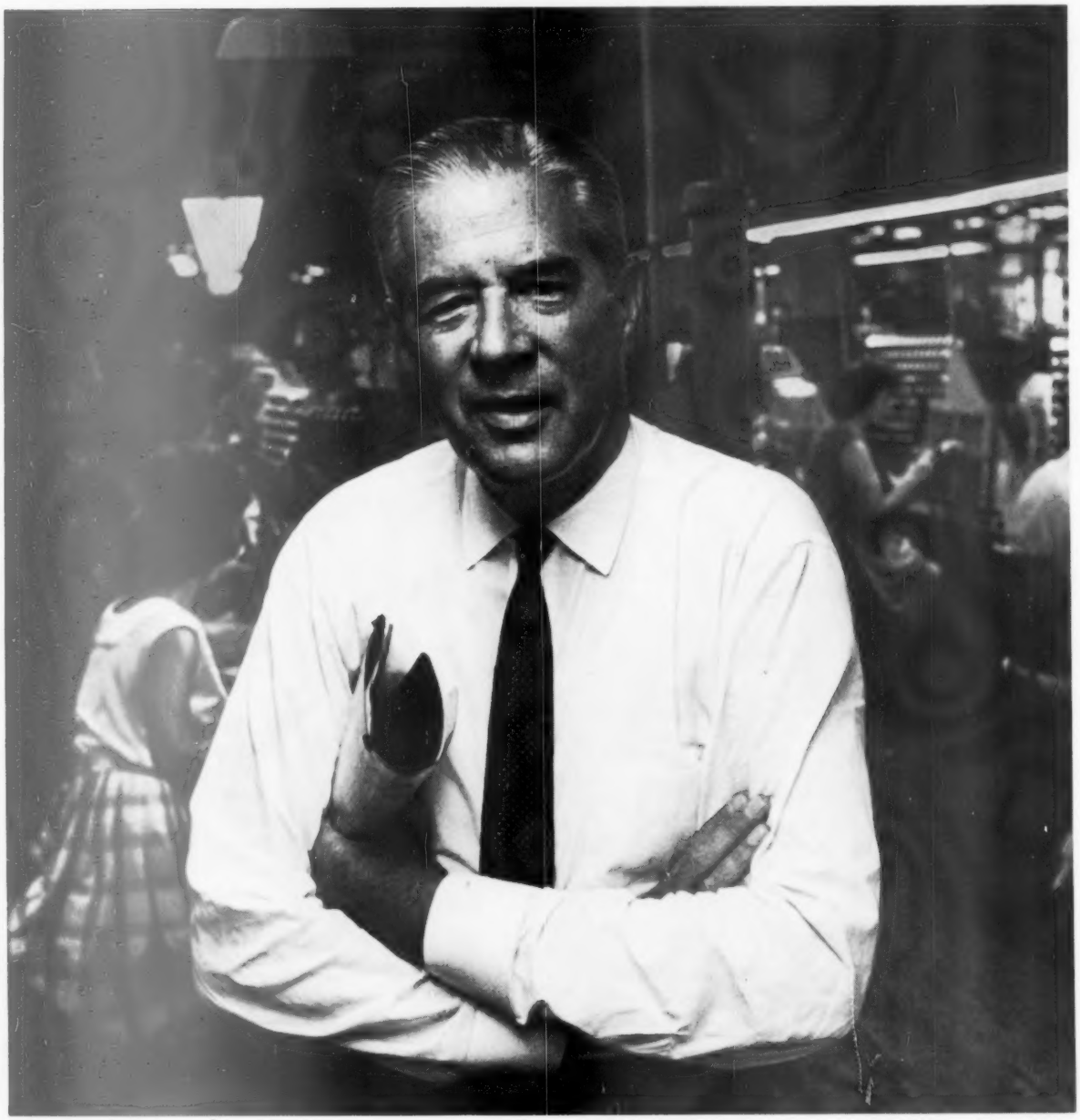


PHOTO ON LOCATION BY EHRENBERG

Where there's business action, there's a businesspaper . . . PULP & PAPER

One of a series of advertisements prepared by the ASSOCIATED BUSINESS PUBLICATIONS

Germany—Beating of swollen chemical pulps

WULTSCH, F. and WEISSMANN, L. Beating characteristics of swollen chemical pulps. Graz, Austria, Akad. Druck- u. Verlagsanstalt, 1959. 95 p. [Ger.] Abstr. Bull. I.P.C. 31: abstr. 4872.

Experiments are reported which indicate clearly that the strength properties of chemical pulps at a given beating degree (equal beating time and energy consumption) can be improved as much as 15% by including a preswelling (prehydration) stage of up to 4 hr in the stock–preparation operations, e.g., by installing a storage and swelling chest for high density pulp (stock consistency above 3.5%) between the pulper and the beater or refiner. The same strength properties can be obtained at low beating degrees, in which case the drainage of the stock on the table rolls is facilitated.

Russia—Hemicelluloses without splitting acetyl groups

SHARKOV, V. I., KUIBINA, N. I., and SOLOV'EVA, YU. P. The isolation of hemicelluloses from sprucewood and birchwood without splitting the acetyl groups. Zhur. Priklad. Khim. 33, no. 11: 2571-5 (Nov., 1960). [Russ.] Abstr. Bull. I.P.C. 31: abstr. 4531.

Spruce- and birchwood holocelluloses were milled in a vibratory mill, and the milled samples were extracted with water at 20, 50, 90, and 95°C. Under these conditions, 12-15% hemicellulose, based on wood weight, was obtained. The extracted spruce and birch hemicelluloses contained 4.7-4.8 and 12.7-12.9% acetyl groups, respectively. The temperature of the extraction water had little effect on the acetyl group content of the hemicelluloses. The holocelluloses and the hemicelluloses were characterized by a constant weight ratio of xylose to acetyl groups (3.3-4.1 for sprucewood, and 3.8-4.1 for birchwood). The isolated hemicellulose preparations are suitable for the study of the distribution of acetyl groups among the various hemicellulose fractions.

France—Continuous starch cooker for use at wet end

DAUWE, and MARTIN, J. L. A new continuous starch cooker for the addition of starch to pulp at the wet end of the paper machine. Papeterie 81, no. 9: 601, 603, 605 (Sept., 1959). [Fr.] Abstr. Bull. I.P.C. 31: abstr. 4749.

A continuous S.P.M. starch cooker, developed at the Société des Produits du Maïs is described. The important parts of the apparatus are an adjustable metering pump, a water flow regulator, a temperature regulator, and a steam injector. The new apparatus makes it possible to control simultaneously the cooking process and the delivery of the starch to the wet end of the paper machine, provided the water and steam pressure are kept constant. The starch paste leaving the injector is immediately diluted with cold water, thus stopping further cooking and swelling. According to the needs of individual mills, the starch cooker can be adjusted to various temperatures, cooking conditions, concentrations, and delivery rates.

Germany—Characteristics of wet felts

HANATSCHEK, ERHART. Characteristics of paper-machine wet felts. Paperi ja Puu 42, no. 11: 607-14, 616 (Nov., 1960), [Ger.] Abstr. Bull. I.P.C. 31: abstr. 4651.

The three major requirements and criteria of press-felt performance are good permeability (drainage), freedom from marking (absence of felt marks in the web), and mechanical strength (durability). These three factors are unfortunately in opposition to each other, so that improvements in one of them will always be at the expense of the other two. Approximate formulas for their quantitative assessment are presented, and their opposing relationship is illustrated.

Norway—Studies on the tear strength of paper

GIERTZ, HANS WILHELM, and HELLE, TORBJORN. On the tear strength of paper. Norsk Skogind. 14, no. 11: 455-69 (Nov., 1960). [Norw.] Abstr. Bull. I.P.C. 31: abstr 4635.

Theories on paper tear strength (I) are reviewed determining properties, with emphasis on that of Van den Akker and co-workers. Two groups of factors determining I include fiber props. (length and strength) and microstructural features (notably interfiber bonding and sheet extensibility). Simple experiments demonstrating the effects of these factors on I are reported, which confirm the validity of current theories. The I of papers allowed to shrink without restrictions during drying is shown to be independent of the beating degree of the pulp. This is explained by assuming that the development of energy-consuming strains on both sides of the tear line is a principal factor determining I. Freely shrunk papers are highly extensible. Conversely, the recently developed extensible papers (such as Clupak and Expanda Kraft) have a high I, thus illustrating the close connection between paper extensibility and I. At identical basis weight paper from high-yield pulps has fewer fibers than paper from low-yield pulps. The tear factor as constant breaking length (calculated to constant fiber number) was found to be almost independent of pulp yield Mechanical conditioning can improve the I of ordinary commercial papers, but will decrease the I of extensible paper.

France—New antioxidants approved for food packaging

PARIAT, MAURICE. New antioxidants approved for use in food packaging materials: three gallic acid esters and di-*tert*-butyl-*p*-cresol. Rev. papiers et cartons 22, no. 24: 15-17 (Dec. 15, 1959). [Fr.] Abstr. Bull. I.P.C. 31: abstr. 4406

Propyl, octyl, and dodecyl gallates and di-*tert*-butyl-*p*-cresol were approved recently by the French ministries of health and commerce for use as additives in paper and board food packaging materials. Di-*tert*-butyl-*p*-cresol is manufactured in France under the trade name IONOL CP (99% pure). When added to paper or board in amounts of 0.1-0.5% by weight, it prevents the oxidation of packaged fats. The preparation, in the form of a concentrated emulsion, is incorporated into the paper or board at the calendar. Radioactive assays made in the U.S. to determine the penetration of IONOL into milk packaged in treated cartons showed that the migration of IONOL molecules is insignificant.

Presented with permission of The Institute of Paper Chemistry, under supervision of Curtis L. Brown, editor of IPC Bulletin. Photostats or translations of original reports, available at reasonable cost by writing Institute of Paper Chemistry, PO Box 498, Appleton, Wis., U.S.A.

STRICTLY PERSONAL . . .

Starts on p. 23

Gordon Inskeep is now manager of program planning and personnel for the technical div., St. Regis Paper Co. He reports to **T. A. Hewson**, asst. v.p., technology . . . **Robert R. Howarth**, pres., Columbia Box Board Mills, Inc. has been elected to the board of directors, Waste Paper Utilization Council . . .

John N. Gammon has been appointed vice pres., i/c industrial division sales, Nopco Chemical Co. **James H. Holmes** succeeds him as southern sales representative . . . **Richard L. Hawkes** is now asst. to the president, Keyes Fibre Co., Waterville, Me. . . . **William E. Mullestein**, v.p., administration, Lukens Steel Co., has been elected a director of Downingtown Paper Co.

Huyck Felt Co., Rensselaer, N. Y., has appointed **William C. McClure** felt sales engineer for New Hampshire, Vermont and northeastern New York. He was formerly field asst. to the sales mgr.

Thomas E. Clark Jr., formerly asst. treas., Holyoke Machine Co., is now i/c sales for territory serviced by the late **George O. Trudeau**. . . . **Everett H. Pixley**, senior vice pres., The Mellon National Bank and Trust Co. of Pittsburgh, has been elected to the board of directors of Brown Co. . . .

William Mazer, pres., Hudson Pulp & Paper Corp. will be honored May 9 at a testimonial dinner by friends of Brandeis University in the paper industry. **Harry Pearlman**, pres., Swanee Paper Corp., and dinner chairman says that more than 1,000 prominent members of the paper industry are expected.—M. R. Castagne.

South

Charles W. Coker Succeeds to Presidency of Sonoco

Charles W. Coker has been named president of Sonoco Products Co., Hartsville, S.C., succeeding James K. Coker III, who died last month. He has served as executive vice president since 1950.

Mr. Coker, who is a grandson of Sonoco founder Major James Lide Coker, joined Sonoco's production dept. in 1930. His father, Charles Westfield Coker, was president of Sonoco from 1918 to 1931 and was instrumental in developing the company to leadership in the production of paper cones, tubes and carriers for the textile industry.

Mr. Coker is a native of Hartsville and a graduate of Univ. of South Carolina. He also attended Harvard School of Business and in 1958 received an honorary doctor of laws degree from Univ. of South Carolina.

Election of **George S. Johnston, Jr.** to post of vice pres. and asst. to the president, Standard Paper Mfg. Co., Richmond, Va., has been announced by **Howard S. Donald**, pres. Mr. Johnston's career began in 1933 when he joined Champion Paper and Fibre Co., Hamilton, Ohio, where he became asst. mill mgr. of the Hamilton Div. Later he was associated with Continental Can Co., and most recently with the Latin American Paper Div. of W. R. Grace & Co.

Glen Ralston, who recently was superintendent for two machines at Waldorf Paper Products Co., St. Paul, has joined the Hank D. Jones Co., manufacturing agents serving the paper industry, of St. Petersburg Beach 6, Fla. Mr. Ralston returns to the South as he was formerly general superintendent at the Valdosta, Ga., mill (now Owens-Illinois) and a machine superintendent at Container Corp., Fernandina, Fla. The Hank D. Jones Co. represents Raybestos-Manhattan rubber division, Cabble Wire Co., Wm. Kenyon carrier rope and Ferguson stock valves.

New mgr., industrial relations, for Southern Kraft Div., International Paper Co. is **F. John Vandillon** replacing **D. H. Barrow** who died recently. Announcement was made by **C. L. Crain**, v. p.

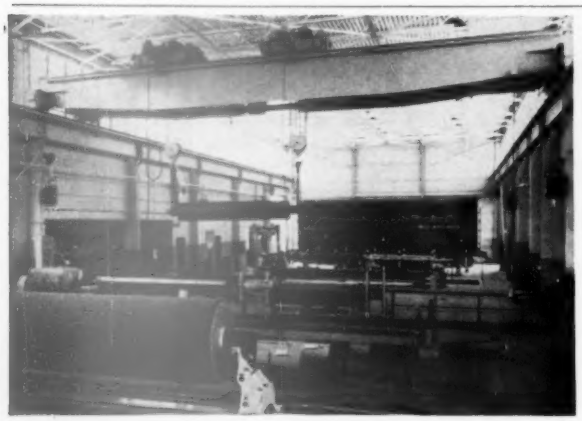
Edmund B. Petiss is now mgr. of sales, Southern Kraft Board Div., International Paper Co., responsible for domestic sales of linerboard and corrugating medium.

M. W. Huber, president of J. M. Huber Corp., announces that **Philip L. Courtney** is new vice president in charge of the clay div. succeeding **Wilbur J. Driver**, who retired recently after 34 years with the company. Mr. Courtney joined Huber in 1933, served successively as foreman of the Langley plant, supt. of the Graniteville, S. C. plant, asst. to the vice pres., and gen. mgr. of Georgia operations.

Charles H. Marvin, Jr., mgr. of the S. C. operations, is asst. vice pres., and **Frank M. Gribble** has been made gen. mgr. of Georgia operations.

Mr. Huber also announced that headquarters for the clay div. have been transferred from Langley, S. C., to Huber, Ga.

Harrison P. Baldwin, since 1957 engineering supervisor of East Texas Pulp and Paper Co., Evadale, Tex., has joined The Chesapeake Corp. of Virginia in the newly established position of maintenance supt. He will direct, supervise and



Simplify Paper Roll Handling Problems with **EUCLID CRANES**

Paper Mill Cranes are a specialty of ours. We've helped build our reputation through close cooperation with production supervisors and engineers in the paper industry.

Shown here is a 30 ton, 5 motor, double box girder Euclid crane in operation at a large southern roll reconditioning plant.

It is floor controlled for convenient operation and incorporates two independently operated trolleys. We'll be glad to discuss your crane or hoist requirements with you.

for details write **THE EUCLID CRANE & HOIST CO.**
1363 CHARDON ROAD • CLEVELAND 17, OHIO

Let TITANOX-A-CG
help make sales through the mails

The eagerly awaited catalog can be a star salesman, especially when well known TITANOX titanium dioxide pigment has boosted the brightness and opacity of its pages while keeping weight down. And for outstanding pages that require coated stock there is new TITANOX-A-CG.

TITANOX-A-CG is the coating grade anatase titanium dioxide pigment so well suited to the high solids, high speed coatings applied by all modern coating methods including the trailing blade coater. This pigment is equally suitable to other processes such as size press and calender application.

In addition to high whiteness, brightness and opacity, TITANOX-A-CG readily yields high gloss. This pigment is ideal for the fast, continuous production of paper surfaces of uninterrupted smoothness.

We will be glad to discuss with you the type of TITANOX best suited to solve your white pigmentation problems. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; offices and warehouses in principal cities. In Canada: Canadian Titanium Pigments, Ltd., Montreal.

TITANIUM PIGMENT CORPORATION
SUBSIDIARY OF NATIONAL LEAD COMPANY

TITANOX

7898

STRICTLY PERSONAL . . .

coordinate all plant maintenance, according to **Erik Zimmerman**, vice pres. and production mgr. A native of Reading, Pa., Mr. Baldwin received a m.e. degree from Cornell U., joined Hammermill Paper Co. in 1937 as planning engr. and asst. supt. of maintenance.—William H. Diehl, Jr.

Pulpwood

Robert Keith Cranston, Jr. mans new Starkville, Miss. branch office of Keith Cranston and Associates, consulting foresters.

Dr. Richard E. McArdle, chief, Forest Service, Department of Agriculture, and **Conrad L. Wirth**, director, National Park Service, who are on opposing sides in the controversy over extending the national park areas of the nation—a move now supported by President Kennedy—were together recently in being the honored winners of annual Rockefeller Public Service Awards. They were two of only six government officials in Washington so honored.

Each received a $3,500 award, with possible supplemental grants for research, lecturing, writing or other activities which would make their experience available to others.

Phillip L. Heaton, U. S. Forest Service, Washington, D. C., has been named asst. regional forester and chief-div. of recreation, Portland, Ore. succeeding **Frank B. Folsom** who retired in Jan. after 38 yrs. service. . . . **Robert King** transfers from Crown Zellerbach tabulating dept. of Camas div. to Neah Bay (Wash.) timber div. as purchasing agent.

Meet Huyck's

GEORGE GILL

"Big" George Gill (he's 6'5", 220 lbs.) climaxed his first ten years' service with Huyck when he was appointed Assistant Sales Manager of the Huyck Felt Co. on September 1, 1960. (Paul Mansuy is Sales Manager).

George spent these ten years in the field as a member of the Sales Engineer and Field Service Engineer Staffs. In both capacities, he travelled back and forth across the country serving Huyck's customers. He knows practically every paper mill in the country and he brings a wide range of experience to his new position.

"Big" George is a graduate of the Department of Pulp and Paper at the New York State College of Forestry at Syracuse University. George will be headquartered in Rensselaer; will live in Albany with wife Mary Ellen and children Alan, Nancy and David. George is one more reason why Huyck Performance is High Performance through experience and professional "know-how".

HUYCK FELTS

First in felts since 1870

Pacific

J. J. Lasater, formerly of Western Pine Assn. lab, becomes asst. chemist in paper products service section, Crown Z Central Research Div., Camas, Wash. **D. R. Blow**, engr. is in paper specialties development section. . . . At Scott Paper Co.'s West Coast mills **Victor A. Williams** advances from wet-strength supervisor to process control engr. at Everett plant; **Edward Reincke**, pulp mill maintenance engr. at Everett, transfers to Coos Bay Pulp Corp. at Anacortes as maintenance engr.; at Everett, **Leonard W. Spencer** is promoted from sr. project engr. to pulp mill maintenance planning engr.; Frank I. Laush, project engr., becomes sr. project engr. . . . Longview Fibre Co. names **W. Q. Reiniger**, mgr. of Los Angeles, Cal. box plant, vice pres. of General Fibre Box Co. (wholly owned subsidiary), Springfield, Mass., effective March 1; **Roy B. Slotten**, supt. of Longfibre's Oakland box plant, succeeds Mr. Reiniger as mgr. at Los Angeles plant; **Gordon E. Richards** was promoted from gen. foreman to supt. at Oakland box plant.

Earl H. Houston, gen. sls. mgr. of International Paper Co.'s Long-Bell Div. from 1956 until retiring early last year, died Feb. 28. He was vice pres. and a director of Long-Bell Lumber Co., Longview, Wash., for several years prior to 1956 when the firm was acquired by IP.

Richard A. Colgan Jr., gen. mgr. of Shasta Forests Co., Redding, Calif., has been elected president of Forest Genetics Research Foundation at Berkeley. New directors include **John W. Duffield**, Industrial Forestry Assn., Nisqually, Wash.; **J. P. Sweeley**, Masonite Corp., Ukiah, Calif.; **N. B. Livermore Jr.**, Pacific Lumber Co., Scotia; **R. I. Righter**, Institute of Forest Genetics, Placerville; **George Garin**, Alabama Polytechnic Institute. . . .

Paul L. Armstrong becomes industrial sales representative of Warren Pumps Inc., Warren, Mass., for S. Cal., Ariz. and part of Nevada. His office is at 1709 W. 8th St., Los Angeles.

Robert M. Sternberger is now vice pres., Southwest Forest Industries, i/c Snowflake Pulp and paper div. He was formerly v.p., Hearst Enterprises, Inc.

Stanton Allen is gen. mgr. of Georgia-Pacific Paper's new corrugated box plant being built at Lacey, Wash. Mr. Allen has been with Downing Box, Container Corp. and Fibreboard Paper Products.

J. M. Tedford, who became incentives supervisor at Crown Zellerbach Camas (Wash.) Div. nearly 30 years ago and has done job analysis work for Pac. Coast Assn. of Pulp & Paper Manufacturers for several years, retired Mar. 1. The book "Industrial Job Analysis", written by Mr. Tedford, was based on the job analysis program now used by the industry on West Coast. . . . **W. H. Rambo**, Portland, Ore. consulting engr. specializing in pulp-plant woodmills, is recuperating following surgery. — Louis H. Blackerby.

Midwest

Gordon Bonfield, Jr., has been appointed general sales manager, central region, container division of Packaging Corporation of America with offices in Wausau, Wis. He formerly was sales manager of the company's Grand Rapids container plant, and was with the American Box Board Co. for 10 years prior to the formation of Packaging Corporation.

Gex P. Condit becomes president of Manchester Machine Co., Manchester, Ohio subsidiary of Diamond National Corp. He was formerly special asst. to the gen. mgr., Diamond Match div. Mr. Condit succeeds **Thomas A. Jones**, who recently resigned to become vice pres. and director of Ethicon Inc. . . . **Fred A. Haselow**, former . . . turn to p. 84

for improved bonding, higher solids content, better pigment dispersion use CALGON* in your coating formula

Calgon improves coating formulas in several important ways. Its high efficiency as a dispersing agent of clay, titanium dioxide, precipitated calcium carbonate and other pigments results in smoother coating colors. Flow properties are improved, and higher concentrations of solids may be used. Calgon also improves the bond between coating and paper stock.

These are some of the reasons why most of the nation's leading producers of coated papers and coated boxboards use Calgon. They also rely on Calgon's Technical Service for assistance on a wide variety of water problems.

Calgon is also useful in controlling a number of water conditions in paper mills. For example, added in only a few ppm to high bicarbonate water, it inhibits the precipitation of calcium carbonate when the water is heated or treated with alkali, and prevents harmful scale formation when washing de-inked paper stock or alkaline pulps.

Calgon added to corrosive water in similar amounts controls corrosion of pipe lines, reducing iron pickup to less than 0.1 ppm, and thus inhibits the breakdown of peroxide solution as in the bleaching of groundwood pulp.

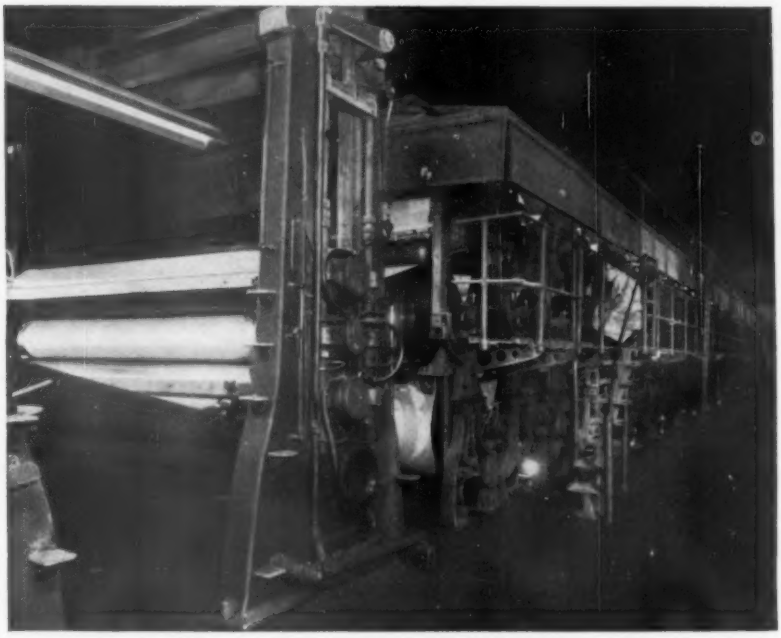
Several years of use have proved that Synoca (Calgon felt washing compound) gets even the dirtiest felts super-clean, softer and more absorbent.

If you have a problem, call on Calgon. A new brochure, "Calgon in Industry" is available on request. Write to CALGON COMPANY, Hagan Center, Pittsburgh 30, Pa.

*Calgon is the registered trademark of Calgon Company for its sodium phosphate glass (sodium hexametaphosphate) products.

HOW HAGAFILM STOPPED RETURN LINE CORROSION, REDUCED DAILY FUEL COSTS

at Whippany Paper Board Company



Quick case history—reading time 58 seconds

THE PLANT: One of the nation's largest producers of paper board and cardboard, Whippany Paper Board Company's Clifton, New Jersey plant uses secondary steam to progressively reduce moisture content in their products during manufacture. Steam is used to heat the more than 20 rolls in each paper machine to effect this drying.

THE PROBLEM: High corrosive action of the condensed steam necessitated replacement of 18-20 pipe nipples *every three weeks*, raised maintenance costs. Corrosion deposits in pipes impeded heat transfer effectiveness, increased fuel costs. Steam traps frequently clogged.

THE SOLUTION: Since introduction of Hagafilm into boiler feed-water system three years ago, no pipe nipples have needed to be replaced due to corrosion. Hagafilm cleaned out corrosion deposits, raising surface temperature of the dryer rolls about 20° F. Steam trap clogging is no longer a problem.

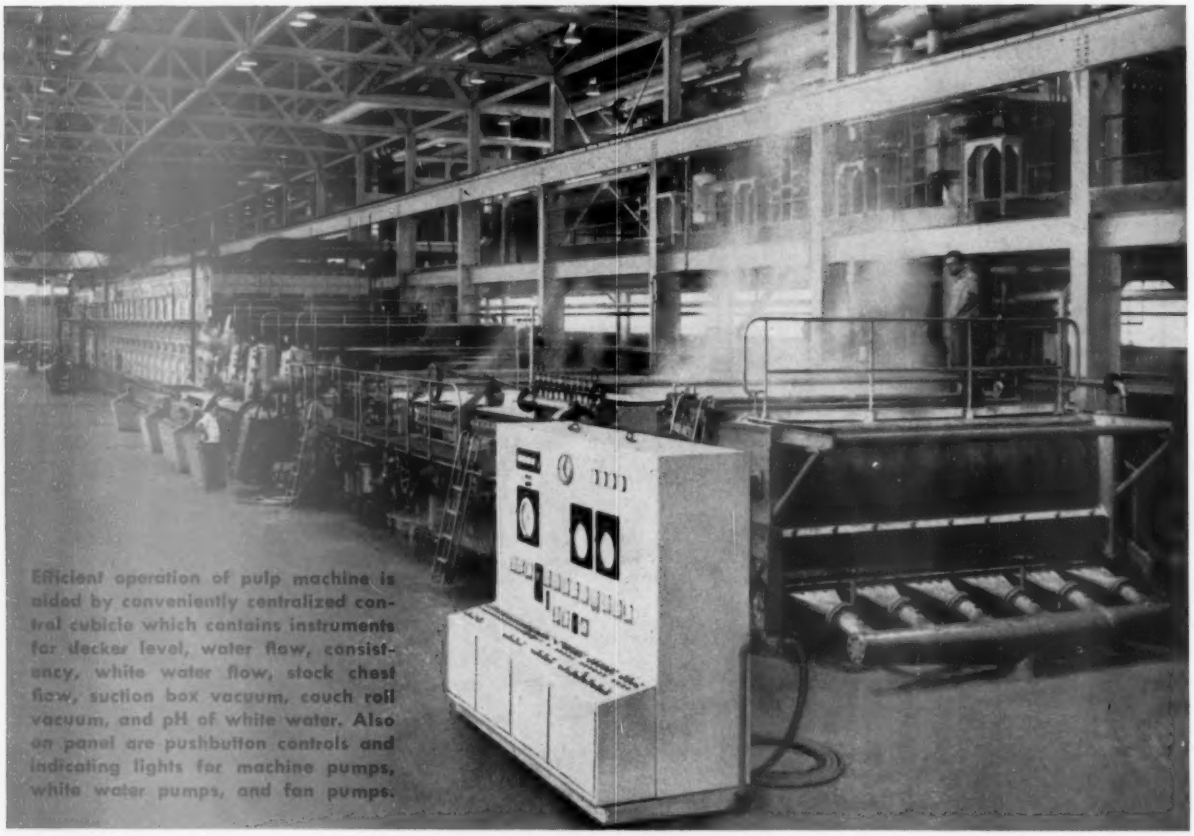
TEST RESULTS: Hall Laboratories engineers, testing the system, had to wait five months before testing strips showed enough corrosion to even be measured. After five months, the strip located at the turbo-generator outlet showed the extremely low corrosion rate of 0.4 mg/dm²/day (0.07 MPY). The strip at the steam trap discharge had a similar low corrosion rate of 1.4 mg/dm²/day (0.26 MPY).

FOR FULL INFORMATION on how Hagafilm can help in your plant operation by putting a thin protective film on metal surfaces throughout the condensate system, contact Hagan Chemicals & Controls, Inc.

HAGAN
CHEMICALS & CONTROLS, INC.
HAGAN BUILDING, PITTSBURGH 30, PA.

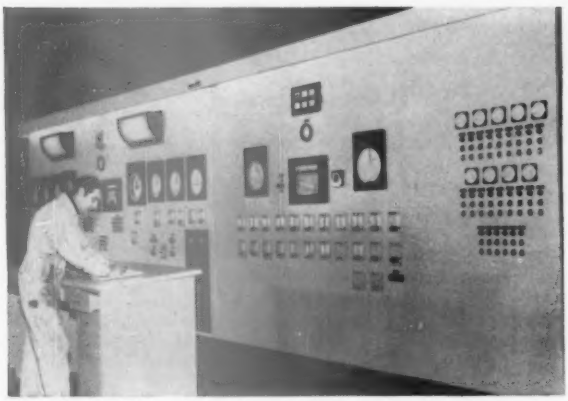
HAGAN DIVISIONS: CALGON CO.—HALL LABORATORIES—BRUNER CORP.

HC-34452



Efficient operation of pulp machine is aided by conveniently centralized control cubicle which contains instruments for flecker level, water flow, consistency, white water flow, stock chest flow, suction box vacuum, couch roll vacuum, and pH of white water. Also on panel are pushbutton controls and indicating lights for machine pumps, white water pumps, and fan pumps.

Pushbutton pulping boosts quality and production at new Alaska mill



Controls for recovery boilers and liquor evaporators are grouped on one panel. Throughout the process, all variables are precisely measured and controlled, so that the mill can produce consistently high grade alpha cellulose with maximum economy and efficiency.

Honeywell controls make pulping completely automatic at the new sulfite mill of Alaska Lumber & Pulp Company, near Sitka. Built to supply cellulose to Japan's rayon industry, the mill daily produces 340 tons of top grade dissolving pulp, and is a fine example of the efficiency and quality control that inevitably result from modern instrumentation.

Controls for each application were chosen from the complete line of Honeywell instruments. Cam programmers automatically steam all digesters. In the acid plant, *ElectroniK* instruments record burner temperatures measured by *Radiamatic* radiation detectors, and various temperature and flow controllers regulate liquor evaporators and recovery boilers. In the washing operation, *Tel-O-Set* miniature instruments control shower water flow and filtrate tank level. In the bleachery, ratio controllers accurately add bleach in relation to pulp flow. Automation is complete even to the *Dur-O-Pulse* telemetry system that monitors settling basin level at the filter plant and transmits the information to the turbine room panel.

Your nearby Honeywell field engineer can help you gain the many benefits of custom-designed, modern instrumentation in your own mill. Call him today . . . he's as near as your phone.

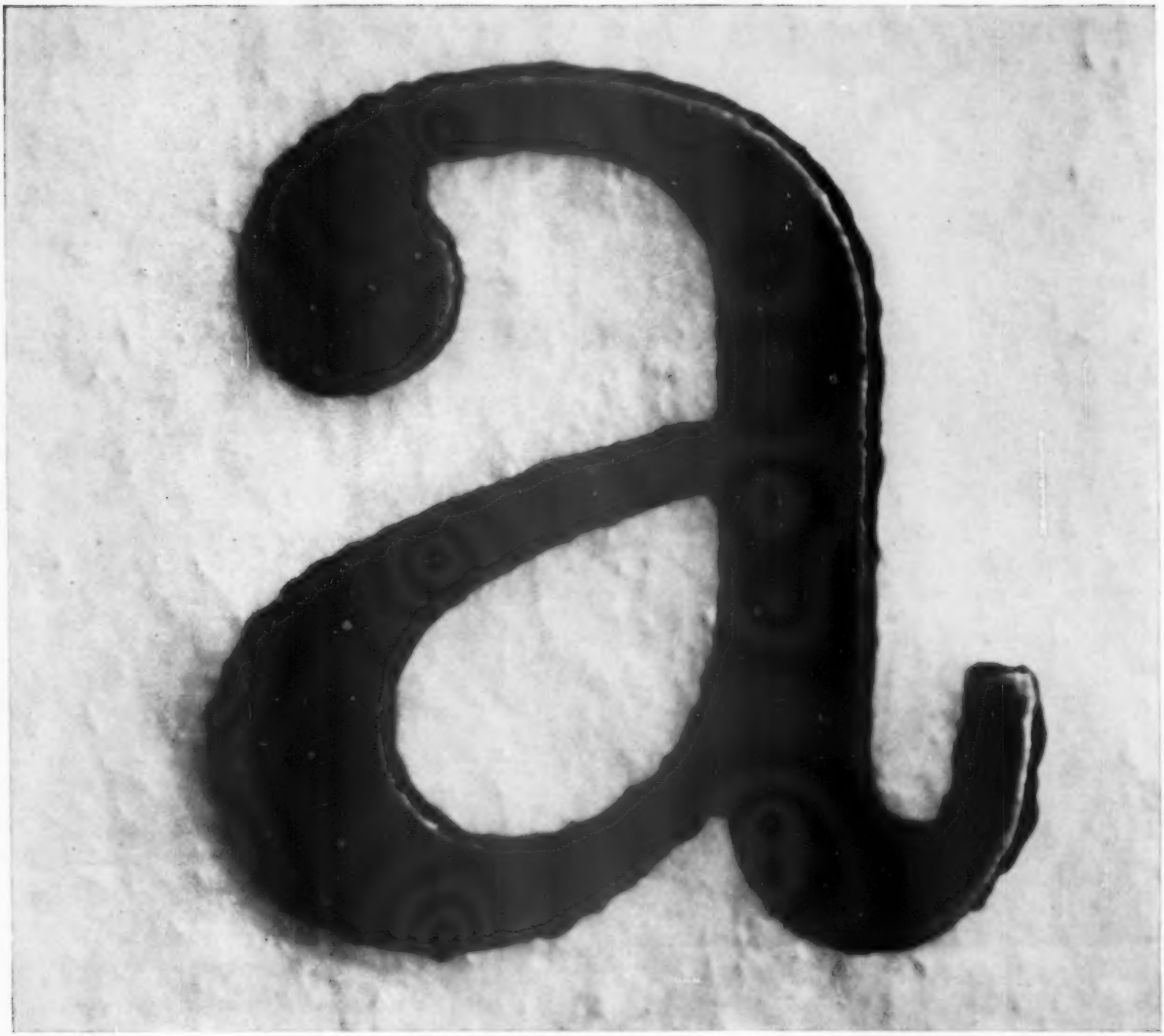
MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.—In Canada, Honeywell Controls, Ltd., Toronto 17, Ontario.

Honeywell

First in Control

SINCE 1885

DOW | LATEX



12-pt. Garamond type impression printed originally on paper coated with Dow Latex 630 and magnified approximately 85 times to show paper surface uniformity. The uniform impression and ink distribution greatly improve print quality.

Now... better control of paper uniformity with **NEW DOW LATEX 630**

- **Excellent Mechanical Stability!**
- **Superior Pick Resistance!**
- **Excellent Starch Compatibility!**

Three good reasons why new DOW LATEX 630 can help you make . . . help you sell . . . better paper than ever! You'll find it far easier to produce uniform paper with smoother, more pick resistant coatings made from Dow Latex 630. Paper surfaces provide a new high in printability, reproducing both illustrations and type with remarkable sharpness and realism. Dow Latex 630 will give you the coating quality you usually associate with higher cost!

Contact Dow now for detailed information to help you make the most of new DOW LATEX 630! Write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Department 1934JJ3-20

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

STRICTLY PERSONAL . . .

starts on p. 80 . . . chief engineer of Charmin Paper Products Co., Green Bay, Wis., joins the plant engineering staff of Mosinee Paper Mills Co., Mosinee. . . . **George C. Crosby**, board chairman of S. T. McKnight Co., Minneapolis investment firm, becomes a member of Weyerhaeuser Co.'s executive committee.

Paul Keck was promoted to assistant to the paper mill supt., Rhinelander. He had been in the plant control lab. A native of Kalamazoo, he graduated from Western Michigan University in paper technology.

William Mara, a food technologist and graduate of Syracuse U., joined the Lake States Yeast and Chemical Division at Rhinelander as chemist, and **William Kenyon**, also a Syracuse alumnus, formerly with Weyerhaeuser and Champion, joined Rhinelander's plant control lab.

Charles Jelinek has been promoted to chief chemist, converting plant, from plant control laboratory senior chemistry at Rhinelander Paper Co. He came to Rhinelander seven years ago from Container Corp. of America. He graduated from U. of Colorado.

Frank H. Wheaton, Jr., pres. of Wheaton Glass Co. and American-Wheaton Glass Corp., new joint venture with American Can Co., is now an American Can Co. director.

Donald O. Collins has been promoted to production mgr., Gilbert Paper Co., with production responsibilities for this cotton fiber paper mill.

Drott Mfg. Corp., Milwaukee, promotes **Erv Drott** to sales supervisor of the new Logging & Landclearing div. . . . **J. L. Huss** becomes mgr. of customer distribution service for Crane Co.'s Industrial Products Group. He was formerly asst. mgr. of the Cincinnati office. . . . Two Midwestern appointments made by Stanley Steel Strapping, division of the Stanley Works, New Britain, Conn.: **Theodore A. Day**, former mgr. of market development, becomes asst. regional mgr. for the Chicago area; **Albert B. Anderson**, sales representative, is transferred to southern Ohio and north central Kentucky. . . .

F. E. Goodrich, who joined Continental with the merger with Fort Wayne Corrugated Box Co., has become sls. mgr. for new products development and will be located in Chicago.

C. H. Root assumes position as director of corrugated box research and development, Van Wert, Ohio.

Canada

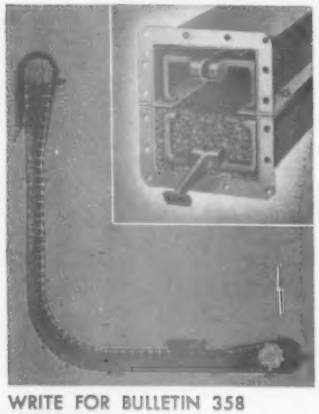
W. J. Jessup has been named sales mgr. for the KVP Co. and will supervise sales of the company's pulp and paper throughout Canada. He joined KVP in 1951 and was with the company's technical department at Espanpla, Ont., for five years prior to joining the sales organization.

R. A. Irwin, pres., Bathurst Power & Paper Co., has announced election of **L. D. Richardson** as president and gen. mgr., Bathurst Containers, Ltd., succeeding Mr. Irwin, who has become chairman of the board of the . . . turn to p. 88

MOVE BULK MATERIAL EN MASSE VERTICALLY . . . HORIZONTALLY . . . ON INCLINES OR AROUND BENDS

STEPHENS-ADAMSON
REDLER CONVEYOR-ELEVATORS

CHECK THESE FEATURES



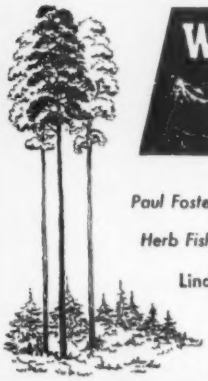
- Handles all dry pulverized, granular, small lump or flake materials.
- Conveys material by EN MASSE action horizontally, vertically, on inclines or around bends.
- Eliminates breakage or spillage.
- All movement continuous in totally enclosed dust-tight, compact casings.
- Large tonnages handled in small space.

WRITE FOR BULLETIN 358

S-A

ENGINEERING DIVISION
STEPHENS-ADAMSON MFG. CO.
95 RIDGEWAY AVENUE • AURORA, ILLINOIS

PLANTS LOCATED IN:
LOS ANGELES, CALIF. • CLARKSDALE, MISS.
BELLEVILLE, ONTARIO • MEXICO CITY, D. F.



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221 North LaSalle Street
Chicago 1, Illinois

Serving the Paper Industry
1906

Paul Foster • Peter Talbot
Herb Fishburn • Wes Gallup • Bill French

Lindsay Wires
Knox Woolen Felts
Mount Vernon Dryer Felts
Carrier Rope, Splicing Tissues, Deckle Webbing, Apron Cloth, Wire Brushes

FREE . . .

a cup of coffee
and a chance to
discuss the industry

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resources

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For good tear and tensile strength in bond, mimeo, writing, manifold, bristol and paper specialties. Typical beater tests at 300 Canadian Standard Freeness: Mullen Factor 107; Tear Factor 1.45; Fold Factor 6; Opacity 66.2%; Breaking Length 6800m.; G.E. Brightness 87%.

Write for free samples and complete data.

Rayonier offers the resources of 2 million acres of prime woodlands in the U. S. and Canada. To further protect your position and our future, last year we planted 21 million pine seedlings in the Southeast. With such big, scientifically farmed forests of hard and soft woods, you are assured the great paper-making pulps, sulfites and krafts — like Raybook, one of our quality bleached sulfites.

Now and during the years ahead, when you need paper-making pulps, call in Rayonier first.

RAYONIER
GREAT PAPER-MAKING PULPS

Rayonier Incorporated
161 East 42nd Street
New York 17, New York

World's Most Complete Line of Paper-Making Pulps: *Western hemlock bleached sulfites; western softwood bleached sulfates; western red cedar bleached sulfates; southern pine bleached sulfates; southern hardwood bleached sulfates; southern pine bleached sulfites.*

A SKILLED HAND IN CHEMISTRY . . . AT WORK FOR YOU

Are your rosin size costs too high?

Nopco® Wax Sizes do more—cost less

Whether your mill uses rosin or fortified-rosin sizes, Nopco can show you how to reduce your sizing costs by using its wax sizes. In addition to saving you money, Nopco Wax Sizes impart improved resistance toward water, ink, lactic acid, alkalis and blood; improve gloss, smoothness and printability; and decreases fuzz, curl and brittleness.

Use of Nopco Wax Sizes in your mill is an advantage you cannot afford to overlook. Let us help you set up a program of tests and trial runs to prove it to your own satisfaction.

Our Technical Service Engineers, utilizing over 30 years' experience with wax sizes, are ready to show you the advantages to be gained by the use of wax sizes in conjunction with rosin sizes. Write today for further information.

ESTIMATED TYPICAL SAVINGS PER TON OF FIBER

Size (%)	Rosin Size	Equiv. Wax Size	Saving
3	$10.80	$8.12	$2.68
2	7.20	5.55	1.65
1½	5.40	4.06	1.34
1	3.60	2.78	0.82
¾	2.70	2.03	0.67
½	1.80	1.41	0.39

ESTIMATED TYPICAL SAVINGS PER TON OF FIBER (FORTIFIED)

Size (%)	Fortified Rosin Size	Equiv. Fortified Wax Size	Saving
3	$12.30	$9.02	$3.28
2	8.20	6.15	2.05
1½	6.15	4.51	1.64
1	4.10	3.08	1.02
¾	3.08	2.26	0.82
½	2.05	1.56	0.49

NOPCO®

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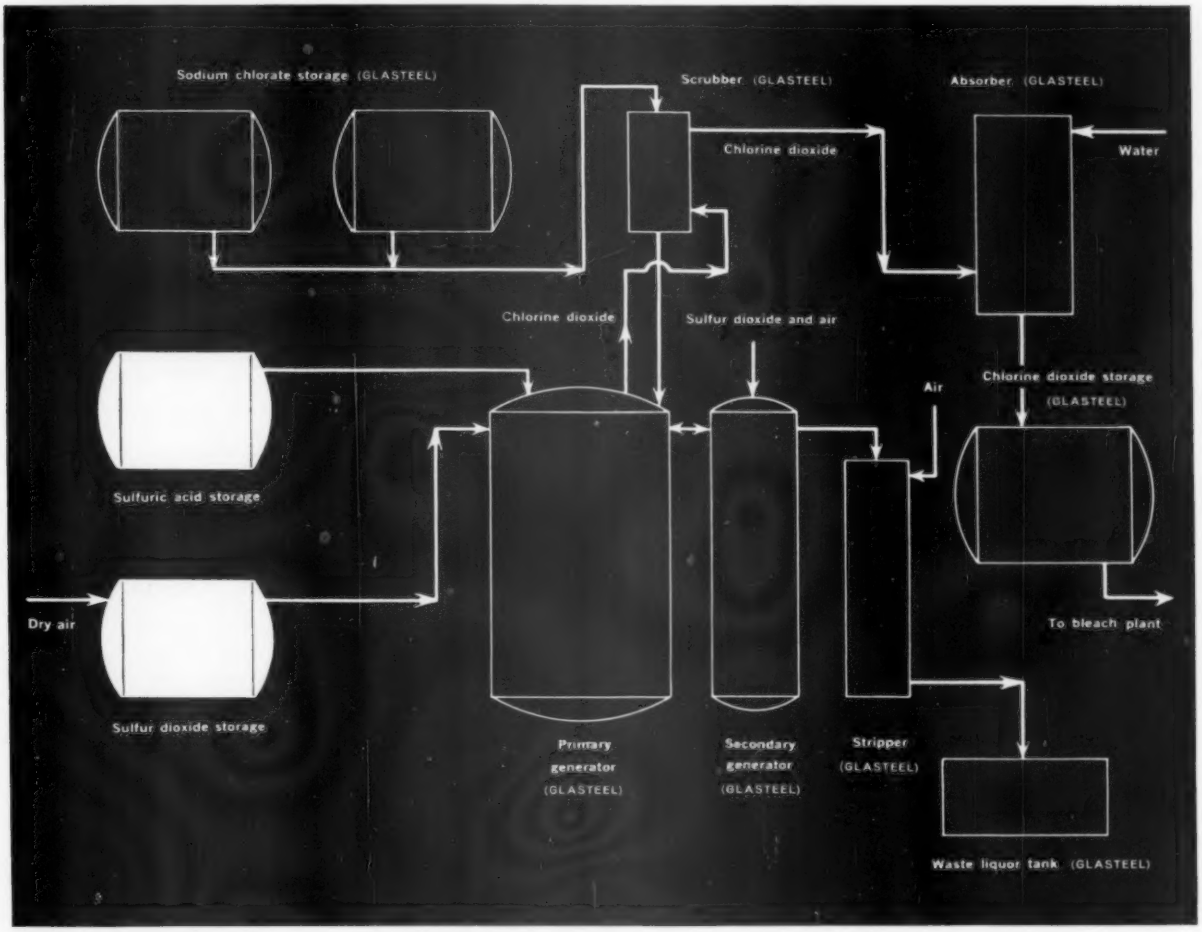
Manufacturing Licensees Throughout the World

FLUIDICS* AT WORK



GLASTEEL ENDS CORROSION in every phase of ClO_2 generation

This flow chart tells the story. Pfaudler® Glasteel has come into its own as the *preferred* material of construction for complete chlorine dioxide generating systems.

With good reason: Glasteel gives you the most useful qualities of both glass and steel. Inside you have glass for *corrosion resistance;* outside, steel for *strength.*

Moreover, with Glasteel there's practically no chance that rust contamination of the chlorate will cause troublesome "puffs."

You'll find Glasteel storage tanks, scrubbers, absorbers, strippers, generators, pumps or piping used in 40 installations throughout North America. In each case the story is the same: Glasteel equipment turns out to be the most economical in terms of cost, maintenance and service life.

In addition to equipment, Pfaudler also offers a complete Project Engineering service — a *temporary* addition to your (or your engineering firm's) staff. We can provide any or all of these functions: (1) Design of system. (2) Selection and specification of equipment. (3) Layout. (4) Procurement and expediting of equipment. (5) Contracting for erection, installation and/or construction. (6) Start-up assistance and personnel training.

For the complete story of one Pfaudler-engineered and -equipped ClO_2 system, ask for Reprints No. 535 and No. 538. Or direct any questions you have about either equipment or services to our Pfaudler Division, Dept. PP-31, Rochester 3, N. Y.

*FLUIDICS is the Pfaudler Permutit program that integrates knowledge, equipment and experience in solving problems involving fluids.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS...the science of fluid processes

STRICTLY PERSONAL . . .

starts on p. 84 . . . subsidiary, **E. H. Gibson** is the new exec. vice pres., Bathurst Containers. Formerly vice pres. and gen. mgr., Mr. Richardson is a past president of the Packaging Association of Canada and has been in the corrugated container industry for 38 years. Mr. Gibson has also had wide experience in the business and was formerly director of sales.

V. H. Cullen is now sales engineer for Sprout-Waldron & Co. Inc.'s pulp and paper equipment in Eastern Canada. He's a graduate of McGill University.

P. A. Vogel has been named vice president, administration, Fraser Cos. Ltd. He was formerly controller of Underwood Corp.

W. R. Hollinger has been appointed traffic supt., the Chemcell group of companies, including Columbia Cellulose Co., Canadian Chemical Co., Celgar and Chemcell Fibres, all in Canada.

George Fletcher, vice pres., H. A. Simons, Ltd., Vancouver, B.C., consulting engineers, has been in Sweden and other European countries visiting some of the mills for which his company has the designing and engineering contract. The Simons organization, until recently concentrating on major mill construction in Canada and the U.S., has been active overseas for the past year or so.—Charles L. Shaw

Allied

William L. Oliver is now chairman of the board, Dorr-Oliver Corp. . . . **Otis J. Bethard** moves as manager, systems and procedures, Marathon div., American Can Co., Neenah, to director, organization planning, systems and procedures, corporates offices in New York City. . . .

C. A. Lee has been promoted from Formex Div. (Huyck Corp.) gen. mgr. to vice pres. He was formerly chief of paper and tissue process development for Kimberly-Clark and with Time-Life.

Beloit Promotes U.S. and International Personnel

Walsh

Brezinski

Dahl

Parker

Mahoney

Beloit Iron Works, Beloit, Wis., appoints **John R. Walsh** vice pres. and gen. plant mgr. He was formerly vice pres. and gen. mgr. of Beloit Eastern Corp., Downingtown, Pa. Appointment fills vacancy left by **W. E. Watson's** recent move to pres. of Beloit International.

In the Research & Development dept. Beloit names **J. P. Brezinski** director of paper process research; **C. B. Dahl** director of the Mechanical Experiment dept.; **Dr. Joseph D. Parker** senior research associate, and **Ralph P. Mahoney** supervisor of coating development.

Mr. Watson, recently vice president and general plant manager of Beloit Iron Works, Beloit, Wis., is now in Zurich, Switzerland, where he has taken over duties as president and chief executive officer of Beloit International Corp., C.A. This is one of several moves to offer more comprehensive services to Beloit, Walmsleys and E. D. Jones (all now affiliated) throughout the world.

Gaston J. Bertrand, former president,

Watson

Swartz

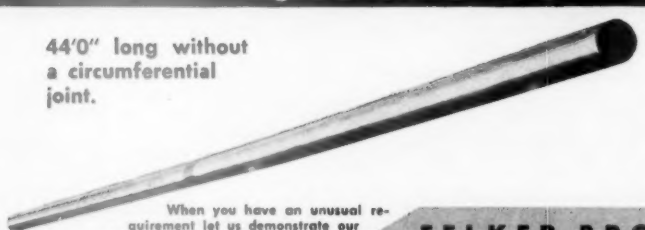
becomes chairman of the board, and will continue to head sales effort in Zurich.

C. H. Swartz, division sales manager, Beloit Iron Works, has been named sales manager of Beloit International Corp. He will work closely with Mr. Watson and Mr. Bertrand.

Rudy L. Kutter heads Beloit's export sales division in Wisconsin and will work with Zurich and other offices around the world.

A big plant expansion by Beloit-Italia, near Turin, Italy, has been completed under George W. Dietrich, who is executive vice president of that company.

FELKER *Stainless steel* TUBES



44'0" long without a circumferential joint.

- 1 length 44'0" - Continuous, no transverse welding permitted, 6" IPS Schedule 5.
- Stainless Steel type 304 Extra Low Carbon — Heliarc, Shielded, Welded.
- Camber — Within tolerances as specified.
- End Use: Nuclear Equipment.

When you have an unusual requirement let us demonstrate our ability to serve you. Ordinary requirements for standard tubing sizes are handled promptly.

FELKER BROS. MANUFACTURING CO.
MARSHFIELD, WISCONSIN

SINCLAIR field representatives are always ready to give you prompt cylinder mould service. Next time you need fast attention, just call the representative nearest you, or our main office at Holyoke, Mass., JE 2-9488.

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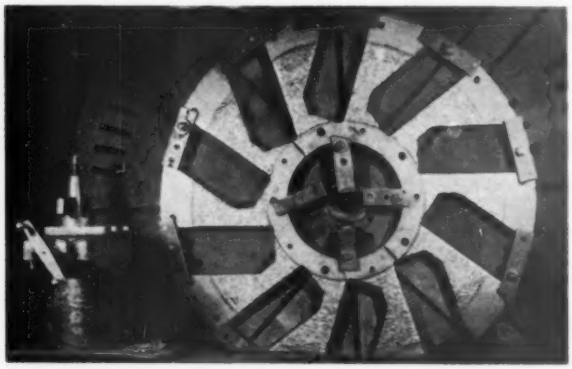

Colmonoy Hard-Surfacing Cuts Wear Plate Costs

Worn chipper disc wear plates are being reclaimed with Colmonoy No. 5 electrodes at less than a third of replacement cost, and are lasting 2½ times longer than new plates. Plate shown has been hard-surfaced and is ready to be machined. Ask for our Engineering Data Sheet No. 49 and the Colmonoy Hard-Surfacing Manual.

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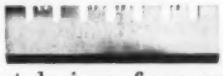

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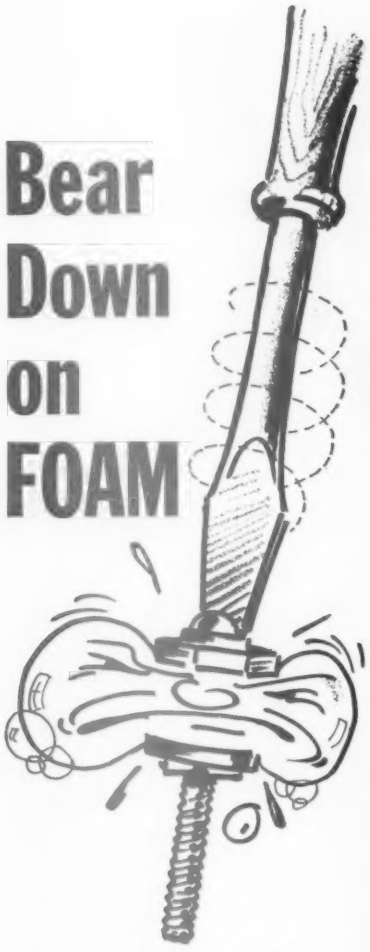

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The last word

Canadian Leader Replies to Critics of Automation

The industry still has a job to do in communicating the importance of automation to ill-informed critics who regard the new, highly efficient mills as a threat to employment.

One of these critics, a columnist in the Vancouver, B.C., Sun, recently sounded off on this subject. In a quick tour of British Columbia Forest Products' new $50,000,000 bleached kraft mill at Crofton, Vancouver Island, he seemed impressed only with the number of men that probably had been displaced by machines.

The fact that only through the installation and operation of these machines was it possible to meet world competition and keep the company itself in business totally escaped the columnist.

It was just too much for C. D. Dickey, president, B.C. Forest Products, to overlook and in the same newspaper a few days later Mr. Dickey had his rejoinder.

"The history of progress for 100 years has been man's ability to design machines that can do his work for him," wrote Mr. Dickey, "and the many things that make our standard of living the highest in the world are at our service because of those machines.

"Without automation those of us living in British Columbia would be living in much the same manner as the people of China or Africa. The people in this company are proud that the pulp mill at Crofton is one of the most modern of its kind in the world. It employs 400 skilled people to man the controls which operate the mill. There are a further 900 men directly employed in logging, towing and chip manufacturing who are busy supplying the Crofton mill with logs and chips. I have no way of knowing how many thousands more it took to design and manufacture the machinery and equipment which perform the task of turning wood, most of which was formery disposed of in burners, into high quality pulp for use in the manufacture of paper.

"Nor can I adequately determine how many are engaged in the work of turning out spare parts for this equipment or in the work of producing and delivering the materials which pour into the mill every day.

"He (the columnist-critic) is appalled that the new newsprint mill to be built at Crofton (recently announced) is to be highly automatic. It must be highly mechanized or there is no chance of its being built, since no one could afford to run it—unless he is suggesting that there be a substantial reduction in wages.

"Without it, British Columbia would lose an opportunity for 150 challenging new jobs for operators in the plant, plus the many thousands of other jobs for the men who will build the mill and keep it supplied with materials and parts.

"Increase in the use of labor-saving machinery is not taking place only in Canada; the same thing is happening at a rapid rate in Europe and Japan and even in Russia. The trend towards mechanization creates problems for a number of people, but the path of progress is always strewn with problems which can never be solved by merely wishing for the good old days. . . . Automation should never be thought of as an evil but as our best hope to create not only more jobs but far more interesting jobs.

"It is one more big step upwards from the dark days of toil when the only measure of a man's ability was the measure of his physical endurance."

Selling Forest Industry to UN

Maybe you already knew this, but it just came to our attention.

Remember last fall when the Irish president of the United Nations Assembly smashed his gavel trying to stop the antics of an unruly individual from Moscow?

Well, there was one fast-thinking gentleman in the forest products industry who knew what to do. Thomas McHugh, the recently retired president of the National Lumber Manufacturers' Association, hastily sent off a new and sturdy wood gavel to the UN chief, with this comment:

"As one Irishman to another, congratulations! I am sending you a new wooden gavel and block suitably engraved to replace the one you so gloriously smashed."

That was quick action to publicize the forest industries. We congratulate Mr. McHugh. Some day, maybe, if we are at a UN Assembly session we should train our binoculars on the gavel to see whether this inscribed one is really being used.

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